

---

# WISCONSIN CANCER INCIDENCE AND MORTALITY

---

1998

**November 2000**

**Bureau of Health Information  
Division of Health Care Financing  
Wisconsin Department of Health and Family Services**

---

## Introduction

*Wisconsin Cancer Incidence and Mortality, 1998* presents summary information about Wisconsin cancer incidence (new cancer cases) and mortality (deaths due to cancer) in 1998. The Wisconsin Cancer Reporting System (WCRS), part of the Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services, collects reports of all newly diagnosed cancer cases from more than 300 Wisconsin hospitals, clinics and physician offices. In addition to those sources, 18 out-of-state cancer registries that have a data exchange agreement with WCRS provide reports of Wisconsin residents diagnosed with cancer in those states. This report would not be possible without the conscientious reporting of all these sources.

Since 1976, WCRS has collected cancer incidence data on Wisconsin residents as mandated by section 255.04, Wisconsin Statutes. All invasive and noninvasive malignant tumors, except basal and squamous cell carcinomas of the skin, are reportable to WCRS. Starting in 1994, WCRS entered into a cooperative agreement with the U.S. Centers for Disease Control and Prevention (CDC) and became part of the National Program of Cancer Registries (NPCR). This program is authorized by the Cancer Registries Amendment Act (Public Law 102-515).

Like *Wisconsin Cancer Incidence and Mortality, 1997*, this report emphasizes invasive cancer data to make Wisconsin data comparable to national data and the cancer publications of other states. Tables 1B, 2B, 9, 10, 11 and supplemental tables A and B present noninvasive/invasive combined incidence data for those readers interested in the total number of cases.

*Wisconsin Cancer Incidence and Mortality, 1998* was produced by the Department of Health and Family Services. Cancer Reporting System staff collected, edited and compiled the data used in this report. Mary Foote and Laura Stephenson-Vine prepared the text. Laura Stephenson-Vine produced the tables and graphs. The report was edited by Patricia Nametz, and prepared under the supervision of Patricia Guhleman, Population Health Analysis Unit Chief. Overall direction for this report was provided by Barbara Rudolph, Director, and Sandra Breitborde, Deputy Director, Bureau of Health Information.

This publication, as well as other information about WCRS operations and other annual and special reports, is available at the Department's Web site (see address below).

Requests for additional cancer incidence data may be addressed to:

Cancer Reporting System, Bureau of Health Information  
Division of Health Care Financing  
Wisconsin Department of Health and Family Services  
P.O. Box 309  
Madison WI 53701-0309  
(608) 266-8926  
<http://www.dhfs.state.wi.us/wcrs/>



---

## Key Findings

### *Demographic characteristics of invasive cancer incidence*

- There were 23,537 newly diagnosed cancer cases in 1998 among Wisconsin residents, compared with 23,857 in 1997.
- In 1998, people age 65 or older accounted for 60 percent of newly diagnosed cases and 74 percent of cancer deaths in Wisconsin.
- In 1998, the most frequently diagnosed cancers among Wisconsin women were breast (32%), colorectal (13%), and lung (12%). Among Wisconsin men, the most frequently diagnosed cancers were prostate (28%), lung (15%), and colorectal (13%).
- The overall age-adjusted cancer incidence rate for Wisconsin residents in 1998 was 374 per 100,000 population. For males, the 1998 rate was 423 per 100,000 male population; for females, it was 339 per 100,000 female population.
- The age-adjusted breast cancer incidence rate among Wisconsin women in 1998 was 111 per 100,000 female population, similar to the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) rate in 1997 (the latest year for which data are available) of 115 per 100,000. The lung cancer incidence rate among Wisconsin women in 1998 was 42 per 100,000; the 1997 SEER rate among women was 43 per 100,000. (See page 79 for more information about the SEER program.)
- The prostate cancer incidence rate among Wisconsin men in 1998 was 122 per 100,000, lower than the 1997 SEER national rate of 139 per 100,000. The lung cancer incidence rate among Wisconsin men in 1998 was 66 per 100,000, similar to the 1997 SEER rate among men of 69 per 100,000.

### *Tumor characteristics*

- In 1998, 54 percent of cancers were diagnosed "early" (cases diagnosed at *in situ* or localized stage of disease, combined). This was similar to the 1997 proportion (53%).
- In 1998, 83 percent of cervical cancers, 84 percent of bladder cancers, 80 percent of prostate cancers and 72 percent of breast cancers were detected at an early stage (*in situ* or local). By contrast, only 25 percent of lung cancers and 15 percent of pancreatic cancers were detected at an early stage.

---

### *Cancer mortality*

- There were 10,863 cancer deaths in Wisconsin in 1998.
- The overall age-adjusted cancer mortality rate for Wisconsin residents in 1998 was 158 per 100,000 population, lower than the 1997 SEER rate of 164. For Wisconsin males, it was 193 per 100,000 population; for Wisconsin females, it was 134 per 100,000 population. SEER rates for 1997 were higher among both males, with a rate of 202 per 100,000 population, and females, with a rate of 137 per 100,000.
- Lung cancer continues to be the leading cause of cancer mortality for both women and men in Wisconsin (as well as nationally) and was responsible for 2,799 Wisconsin resident deaths in 1998. Twenty-nine percent of male cancer deaths and 22 percent of female cancer deaths in Wisconsin were due to lung cancer.
- The three highest rates of cancer death among Wisconsin women were lung (32 per 100,000), breast (22 per 100,000), and colorectal (13 per 100,000). Among Wisconsin men, the highest rates of cancer death were lung (58 per 100,000), prostate (24 per 100,000) and colorectal (19 per 100,000).
- Cancer mortality is strongly related to age, increasing sharply with advancing age. Prostate and colorectal cancers are examples of this relationship; 94 percent of prostate cancer deaths and 81 percent of colorectal cancer deaths occurred among those age 65 and older.
- The cancer mortality rate was higher in the Southeastern region of the state (166 per 100,000) than in the state as a whole (158 per 100,000). Among Wisconsin's three most populous counties, the cancer mortality rate was highest in Milwaukee County (174 per 100,000) followed by Waukesha County (160 per 100,000) and Dane County (141 per 100,000).

---

## Guide for Reading this Report

**Content of the Report.** *Wisconsin Cancer Incidence and Mortality, 1998* summarizes data on cases among Wisconsin residents diagnosed with cancer between January 1, 1998 and December 31, 1998 and reported to WCRS by July 15, 2000. The majority, approximately 95 percent, of WCRS's estimated 1998 cases are included in this report (some cases do not get reported until after publication). Mortality data are derived from 1998 Wisconsin resident deaths where the underlying cause of death was listed as cancer.

Incidence and mortality data are analyzed by demographic characteristics of sex, age and race. Race is presented in three categories: White, African American, and Other (includes American Indian and Asian/Pacific Islander). Data on Hispanic ethnicity are not provided in this report (see page 50 for more information).

The geographic variables in this report (county and zip code) are based on the patient's residence at time of diagnosis for incidence data, and residence at time of death for mortality data.

All cancers in this report are classified and listed in order of their site group classification found in the *International Classification of Diseases for Oncology (ICD-O), Second Edition*.

**Data Sources.** This report includes all cancer cases diagnosed in 1998 among Wisconsin residents. These cases were reported by Wisconsin hospitals, clinics and physician offices, cooperating out-of-state cancer registries and selected Minnesota hospitals.

The 1998 mortality data were obtained from death certificates for Wisconsin residents, collected and coded by the Vital Records Section, Bureau of Health Information. Cancer mortality rate calculations are based on the underlying cause of death recorded on the death certificate.

The Bureau of Health Information (BHI) prepares the Wisconsin population estimates. These estimates are for July 1, 1998. To produce these estimates, BHI uses beginning-year state and county population totals developed by the Wisconsin Department of Administration, Demographic Services, together with the mid-year age- and sex-specific state estimates from the Population Estimates Branch of the U.S. Bureau of the Census.

**Invasive and In Situ Cases.** This annual report focuses on invasive cancer data in response to an increasing interest in comparing Wisconsin data with national data and data from other states. Most of the incidence tables contain invasive-only cancers (cancer has penetrated into organ tissue). Seven tables (1B, 2B, 9, 10, 11 and supplemental tables A and B) present both invasive and *in situ* (non-invasive) cancers for data users interested in the total number of cases.

Invasive cancer rates exclude all *in situ* cancer cases except for those of the urinary bladder (following national standards). The seven *in situ/invasive combined* incidence tables are provided to allow comparisons with data in previous annual reports and to address hospitals' needs to compare individual hospital data with statewide totals (for hospitals that prepare their own annual reports).

**Age-Adjusted Incidence and Mortality Rates.** Following National Cancer Institute (NCI) and CDC guidelines, WCRS age-adjusts incidence and mortality rates per 100,000 population for Wisconsin residents to the U.S. Census Bureau's 1970 standard population age distribution (see page 52). Rates are age-adjusted in order to account for differences in age distributions over time and across different

---

geographic regions. More detail on the age-adjustment method is provided in the Technical Notes (page 52).

Cancer incidence rates reflect the number of newly diagnosed cancers in the population; this is not the same as the number of individuals who have been newly diagnosed with cancer. For example, in this report, a person diagnosed with two cancers in the same year will add two cancers to the annual cancer incidence rate. Thus "cancer cases" are distinguished from "individuals with cancer."

***Incidence and Mortality Comparisons.*** The incidence data presented in this report reflect new cancers diagnosed in 1998. The mortality data represent cancer deaths that occurred in 1998; the cancer which led to the death *may have been diagnosed prior to 1998*. Please see page 53 for further explanation.

***Data Quality and Limitations.*** This report represents data collected from different types of facilities. Reporting sources vary in their ability to provide timely and complete data, and WCRS appreciates the effort and dedication that reporting facilities make to ensure the overall good quality of Wisconsin cancer reports. However, variations in facility compliance and reporting practices exist based on the resources of the facility and the experience and qualifications of the reporters.

All Wisconsin-based facilities are required by Wisconsin statute to abstract and report cancer incidence data to WCRS within six months from the date of diagnosis or date of first contact with the patient. This 'six-month rule' is the national standard that all central cancer registries work to achieve and maintain.

WCRS staff edit, process and analyze the cancer data received. Quality assurance measures are in place to identify incomplete and/or inaccurate incoming data. Facility-specific (in person, phone, or written correspondence) and group training sessions are implemented as needed (WCRS-initiated) or requested (facility-initiated).

The one-year time frame of this report limits certain data analyses because small numbers are reported for less common cancer sites and for county-level data. Frequency counts by cancer site are presented as an estimate of general magnitude for each county. Caution is warranted when computing rates or relative proportions due to the small population of many counties and relative rarity of some types of cancer.

---

A comparison of Wisconsin and national cancer statistics for 1993-1997 is provided in Supplemental Table D (page 79). The national data are from the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) *Cancer Statistics Review*, and the North American Association of Central Cancer Registries (NAACCR) *Cancer in North America*.



---

---

## Table of Contents

### *Demographics of cancer incidence*

Table 1A.	Number and Percent of <i>Invasive</i> Cancer Cases by Individual Primary Site and Sex .....	11
Table 1B.	Number and Percent of <i>In Situ/Invasive Combined</i> Cancer Cases by Individual Primary Site and Sex.....	12
Table 2A.	Number and Age-Adjusted Rate of <i>Invasive</i> Cancer Cases by Site Group and Sex .....	13
Table 2B.	Number and Age-Adjusted Rate of <i>In Situ/Invasive Combined</i> Cancer Cases by Site Group and Sex.....	14
Table 3.	Number and Percent of <i>Invasive</i> Cancer Cases by Site Group and Race: Males .....	15
Table 4.	Number and Percent of <i>Invasive</i> Cancer Cases by Site Group and Race: Females.....	16
Table 5.	Number and Age-Adjusted Rate of <i>Invasive</i> Cancer Cases by Major Site Group and Region .....	17
Table 6.	Number and Age-Adjusted Rate of <i>Invasive</i> Cancer Cases by Major Site Group, Counties Over 100,000 Population.....	18
Table 7.	Number of <i>Invasive</i> Cancer Cases by Site Group, Age and Sex .....	20
Table 8.	Number of <i>Invasive</i> Cancer Cases by Race, Age and Sex.....	22
Figure 1.	Age-Specific <i>Invasive</i> Cancer Incidence Rates, by Sex .....	23
Figure 2.	Age-Adjusted Male <i>Invasive</i> Incidence Rates for Selected Cancers, 1990-1998.....	24
Figure 3.	Age-Adjusted Female <i>Invasive</i> Incidence Rates for Selected Cancers, 1990-1998 .....	24

### *Tumor characteristics*

Table 9.	Number and Percent of <i>In Situ/Invasive Combined</i> Cancer Cases by Site Group and Stage of Disease .....	25
Table 10.	Percent of <i>In Situ/Invasive Combined</i> Cancer Cases by Site Group and Diagnostic Confirmation.....	26
Table 11.	Number and Percent of <i>In Situ/Invasive Combined</i> Cancer Cases by Site Group and Tumor Cell Type .....	27

### *Cancer mortality*

Table 12.	Number and Age-Adjusted Rate of Cancer Deaths by Site Group and Sex .....	28
Table 13.	Number and Percent of Cancer Deaths by Site Group and Race: Males.....	29
Table 14.	Number and Percent of Cancer Deaths by Site Group and Race: Females .....	30
Table 15.	Number and Age-Adjusted Rate of Cancer Deaths by Major Site Group and Region .....	31
Table 16.	Number and Age-Adjusted Rate of Cancer Deaths by Major Site Group, Counties Over 100,000 Population .....	32
Table 17.	Number of Cancer Deaths by Site Group, Age and Sex .....	34
Table 18.	Number of Cancer Deaths by Race, Age and Sex .....	36
Table 19.	Cancer Deaths by Average Number of Months Between Diagnosis and Death and Age at Diagnosis .....	37
Table 20.	Cancer Deaths by Average Number of Months Between Diagnosis and Death and Stage of Disease at Diagnosis .....	38
Figure 4.	Age-Specific Cancer Mortality Rates, by Sex .....	39
Figure 5.	<i>Invasive</i> Cancer Cases and Deaths by Site: Males .....	40
Figure 6.	<i>Invasive</i> Cancer Cases and Deaths by Site: Females .....	41
Figure 7.	Average Years of Potential Life Lost Due to Cancer Mortality: Males .....	42
Figure 8.	Average Years of Potential Life Lost Due to Cancer Mortality: Females .....	43
Figure 9.	Age-Adjusted Male Mortality Rates for Selected Cancers, 1990-1998 .....	44

Figure 10. Age-Adjusted Female Mortality Rates for Selected Cancers, 1990-1998.....	44
---	----

## Technical Notes

Cancer Reporting Statute and Administrative Rules.....	45
Neoplasm Record/Report: Required Data for 1998 Diagnoses.....	46
Cancer Reporting Operating Procedures .....	47
Data Collection .....	47
Supplemental Data Sources .....	47
Reportable Cases.....	48
Record Confidentiality.....	48
Quality Assurance.....	48
Completeness and Timeliness of Reports.....	48
Multiple Tumor Determination.....	48
Definitions .....	49
Patient Residence.....	49
Patient Race .....	50
Stage of Disease at Diagnosis .....	50
Type of Diagnostic Confirmation .....	51
Incidence/Death Case Matching .....	51
Years of Life Lost.....	51
Rates.....	52
Caveats/Limitations.....	52
Geographic Boundaries.....	52
Patient Race .....	53
Incidence to Mortality Comparison .....	53
Years of Life Lost.....	53
<i>In Situ</i> Cervical Cancer Data .....	53
Case Coverage .....	53
Coding of Reported Cases.....	55
Coding of Deaths.....	59
Wisconsin and U.S. Population Estimates .....	60
Department of Health and Family Services Regional Map.....	63

## Supplemental Tables

Table A. Number of <i>In Situ/Invasive Combined</i> Cancer Cases by Site Group and County of Residence .....	64
Table B. Number of <i>In Situ/Invasive Combined</i> Cancer Cases for Large Cities and their Surrounding Counties by Major Site Group .....	71
Table C. Number of Cancer Deaths by Site Group and County of Residence.....	72
Table D. Wisconsin and National Age-Adjusted <i>Invasive</i> Incidence and Mortality Rates, Selected Sites, 1993 - 1997.....	79
Table E. SEER Age-Adjusted <i>Invasive</i> Incidence and Mortality Rates, Selected Sites, 1997 .....	79

## Demographics of Cancer Incidence

**Table 1A. Number and Percent of Invasive Cancer Cases by Individual Primary Site and Sex, Wisconsin, 1998**

PRIMARY SITE (organ of origin)	MALE		FEMALE		TOTAL	
	Number	%	Number	%	Number	%
Lip	41	0.4	12	0.1	53	0.2
Tongue	87	0.7	44	0.4	131	0.6
Major Salivary Glands	37	0.3	37	0.3	74	0.3
Gum	10	0.1	14	0.1	24	0.1
Floor of Mouth	23	0.2	22	0.2	45	0.2
Other & Unspecified Parts of Mouth	56	0.5	35	0.3	91	0.4
Oropharynx	80	0.7	28	0.2	108	0.5
Nasopharynx	13	0.1	6	0.1	19	0.1
Hypopharynx	40	0.3	15	0.1	55	0.2
Other Sites in Lip, Oral Cavity & Pharynx	9	0.1	1	<0.1	10	<0.1
Esophagus	201	1.7	61	0.5	262	1.1
Stomach	250	2.1	137	1.2	387	1.6
Small Intestine	42	0.4	43	0.4	85	0.4
Colon	1,065	9.0	1,187	10.2	2,252	9.6
Rectum, Rectosigmoid Junction & Anus	510	4.3	370	3.2	880	3.7
Liver & Intrahepatic Bile Duct	154	1.3	70	0.6	224	1.0
Gallbladder & Extrahepatic Bile Duct	31	0.3	78	0.7	109	0.5
Pancreas	297	2.5	286	2.5	583	2.5
Retroperitoneum & Peritoneum	22	0.2	50	0.4	72	0.3
Other Within Digestive Organs & Peritoneum	4	<0.1	7	0.1	11	<0.1
Nasal Cavities & Sinuses, Internal Ear	21	0.2	16	0.1	37	0.2
Larynx	181	1.5	40	0.4	221	0.9
Trachea, Bronchus & Lung	1,825	15.4	1,403	12.0	3,228	13.7
Pleura	46	0.4	12	0.1	58	0.2
Thymus, Heart & Mediastinum	11	0.1	18	0.2	29	0.1
Other Respiratory & Intrathoracic Sites	2	<0.1	0	0.0	2	<0.1
Hematopoietic & Reticuloendothelial Systems, Except Leukemia	163	1.4	111	1.0	274	1.2
Bone, Joints & Articular Cartilage	27	0.2	20	0.2	47	0.2
Connective, Subcutaneous & Other Soft Tissue	73	0.6	47	0.4	120	0.5
Melanoma of Skin	292	2.5	238	2.0	530	2.3
Breast	42	0.4	3,717	31.8	3,759	16.0
Uterus, NOS	0	0.0	47	0.4	47	0.2
Cervix Uteri	0	0.0	256	2.2	256	1.1
Placenta	0	0.0	1	<0.1	1	<0.1
Corpus Uteri	0	0.0	706	6.1	706	3.0
Ovary, Fallopian Tube & Broad Ligament	0	0.0	463	4.0	463	2.0
Other & Unspecified Female Genital Organs	0	0.0	89	0.8	89	0.4
Prostate	3,348	28.2	0	0.0	3,348	14.2
Testis	184	1.5	0	0.0	184	0.8
Penis & Other Male Genital Organs	30	0.3	0	0.0	30	0.1
Urinary Bladder	851	7.2	303	2.6	1,154	4.9
Kidney & Other Urinary Organs	401	3.4	285	2.4	686	2.9
Eye & Lacrimal Gland	30	0.3	32	0.3	62	0.3
Brain	188	1.6	179	1.5	367	1.6
Other & Unspecified Parts of Nervous System	12	0.1	9	0.1	21	0.1
Thyroid Gland	76	0.6	230	2.0	306	1.3
Other Endocrine Glands	13	0.1	6	0.1	19	0.1
Lymph Nodes	322	2.7	287	2.5	609	2.6
Hodgkin's Disease	87	0.7	69	0.6	156	0.7
Lymphoid Leukemia	156	1.3	117	1.0	273	1.2
Myeloid Leukemia	139	1.2	122	1.0	261	1.1
Other Leukemia	65	0.5	37	0.3	102	0.4
Other & Ill-defined Sites	74	0.6	67	0.6	141	0.6
Unknown Primary Site	240	2.0	236	2.0	476	2.0
All Reportable Sites	11,871	100.0	11,666	100.0	23,537	100.0

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

## Demographics of Cancer Incidence

**Table 1B. Number and Percent of *In Situ/Invasive Combined* Cancer Cases by Individual Primary Site and Sex, Wisconsin, 1998**

PRIMARY SITE (organ of origin)	MALE		FEMALE		TOTAL	
	Number	%	Number	%	Number	%
Lip	44	0.4	12	0.1	56	0.2
Tongue	89	0.7	45	0.4	134	0.5
Major Salivary Glands	39	0.3	37	0.3	76	0.3
Gum	10	0.1	15	0.1	25	0.1
Floor of Mouth	23	0.2	22	0.2	45	0.2
Other & Unspecified Parts of Mouth	56	0.5	35	0.3	91	0.4
Oropharynx	80	0.7	28	0.2	108	0.4
Nasopharynx	13	0.1	6	<0.1	19	0.1
Hypopharynx	42	0.4	15	0.1	57	0.2
Other Sites in Lip, Oral Cavity & Pharynx	9	0.1	1	<0.1	10	<0.1
Esophagus	208	1.7	64	0.5	272	1.1
Stomach	252	2.1	139	1.1	391	1.6
Small Intestine	42	0.4	43	0.3	85	0.3
Colon	1,132	9.3	1,253	9.5	2,385	9.4
Rectum, Rectosigmoid Junction & Anus	540	4.5	397	3.0	937	3.7
Liver & Intrahepatic Bile Duct	154	1.3	70	0.5	224	0.9
Gallbladder & Extrahepatic Bile Duct	34	0.3	82	0.6	116	0.5
Pancreas	297	2.4	286	2.2	583	2.3
Retroperitoneum & Peritoneum	22	0.2	50	0.4	72	0.3
Other Within Digestive Organs & Peritoneum	4	<0.1	7	<0.1	11	0.1
Nasal Cavities & Sinuses, Internal Ear	21	0.2	17	0.1	38	0.2
Larynx	189	1.6	43	0.3	232	0.9
Trachea, Bronchus & Lung	1,830	15.1	1,404	10.7	3,234	12.8
Pleura	46	0.4	12	0.1	58	0.2
Thymus, Heart & Mediastinum	11	0.1	18	0.1	29	0.1
Other Respiratory & Intrathoracic Sites	2	<0.1	0	0.0	2	<0.1
Hematopoietic & Reticuloendothelial Systems, Except Leukemia	163	1.4	111	0.8	274	1.1
Bone, Joints & Articular Cartilage	27	0.2	20	0.2	47	0.2
Connective, Subcutaneous & Other Soft Tissue	73	0.6	47	0.4	120	0.5
Melanoma of Skin	383	3.2	327	2.5	710	2.8
Breast	46	0.4	4,372	33.2	4,418	17.5
Uterus, NOS	0	0.0	47	0.4	47	0.2
Cervix Uteri	0	0.0	792	6.0	792	3.1
Placenta	0	0.0	1	<0.1	1	<0.1
Corpus Uteri	0	0.0	719	5.5	719	2.8
Ovary, Fallopian Tube & Broad Ligament	0	0.0	463	3.5	463	1.8
Other & Unspecified Female Genital Organs	0	0.0	173	1.3	173	0.7
Prostate	3,358	27.7	0	0.0	3,358	13.3
Testis	186	1.5	0	0.0	186	0.7
Penis & Other Male Genital Organs	37	0.3	0	0.0	37	0.2
Urinary Bladder	851	7.0	303	2.3	1,154	4.6
Kidney & Other Urinary Organs	413	3.4	290	2.2	703	2.8
Eye & Lacrimal Gland	32	0.3	32	0.2	64	0.3
Brain	188	1.6	179	1.4	367	1.5
Other & Unspecified Parts of Nervous System	12	0.1	9	0.1	21	0.1
Thyroid Gland	76	0.6	230	1.8	306	1.2
Other Endocrine Glands	14	0.1	6	<0.1	20	0.1
Lymph Nodes	322	2.7	287	2.2	609	2.4
Hodgkin's Disease	87	0.7	69	0.5	156	0.6
Lymphoid Leukemia	156	1.3	117	0.9	273	1.1
Myeloid Leukemia	139	1.2	122	0.9	261	1.0
Other Leukemia	65	0.5	37	0.3	102	0.4
Other & Ill-defined Sites	74	0.6	67	0.5	141	0.6
Unknown Primary Site	240	2.0	236	1.8	476	1.9
All Reportable Sites	12,131	100.0	13,157	100.0	25,288	100.0

Source: WI Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Dept. of Health and Family Services

**Table 2A. Number and Age-Adjusted Rate of *Invasive* Cancer Cases by Site Group and Sex, Wisconsin, 1998**

PRIMARY SITE	MALE		FEMALE		TOTAL	
	Number	Rate	Number	Rate	Number	Rate
Mouth & Pharynx	396	14.0	214	6.5	610	9.9
Stomach	250	8.6	137	3.5	387	5.8
Colorectal	1,575	55.5	1,557	40.2	3,132	47.3
Pancreas	297	10.5	286	7.3	583	8.8
Other Gastrointestinal Tract	454	16.0	309	8.3	763	11.8
Trachea, Bronchus & Lung	1,825	65.6	1,403	41.8	3,228	52.3
Other Respiratory	261	9.4	86	2.4	347	5.7
Bone & Connective Tissue	100	3.8	67	2.0	167	2.9
Melanoma of Skin	292	10.1	238	7.1	530	8.4
Breast	42	1.5	3,717	111.2	3,759	59.9
Cervix Uteri	-	--	256	8.0	256	4.1
Corpus Uteri	-	--	706	21.9	706	11.7
Other Female Genital	-	--	600	17.7	600	9.5
Prostate	3,348	121.8	-	--	3,348	55.0
Other Male Genital	214	7.1	-	--	214	3.5
Urinary Bladder	851	29.6	303	8.0	1,154	17.5
Kidney & Other Urinary	401	14.1	285	8.4	686	11.0
Eye, Brain & Other Nervous System	230	8.3	220	6.8	450	7.5
Lymph Nodes	409	14.3	356	10.4	765	12.2
Leukemia	360	13.0	276	8.2	636	10.4
All Others	566	19.4	650	18.6	1,216	18.6
All Reportable Sites	11,871	422.8	11,666	338.6	23,537	373.7

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Male rates are cases per 100,000 male residents, female rates are cases per 100,000 female residents, and total rates are cases per 100,000 residents.  
 All rates are age-adjusted to the 1970 United States population.  
 Site groups are listed in ICD-O2 numerical code order. See Technical Notes at the end of this report for the individual sites included in each site group.

- Cancer rates were higher for men than women for all primary site groups (excluding sex-specific cancers). The annual cancer incidence rate was 423 per 100,000 population for males and 339 per 100,000 population for females.

**Table 2B. Number and Age-Adjusted Rate of *In Situ*/Invasive Combined Cancer Cases by Site Group and Sex, Wisconsin, 1998**

PRIMARY SITE	MALE		FEMALE		TOTAL	
	Number	Rate	Number	Rate	Number	Rate
Mouth & Pharynx	405	14.4	216	6.5	621	10.1
Stomach	252	8.7	139	3.5	391	5.8
Colorectal	1,672	59.0	1,650	42.8	3,322	50.2
Pancreas	297	10.5	286	7.3	583	8.8
Other Gastrointestinal Tract	464	16.4	316	8.4	780	12.1
Trachea, Bronchus & Lung	1,830	65.8	1,404	41.8	3,234	52.4
Other Respiratory	269	9.7	90	2.6	359	5.9
Bone & Connective Tissue	100	3.8	67	2.0	167	2.9
Melanoma of Skin	383	13.3	327	9.8	710	11.3
Breast	46	1.7	4,372	132.3	4,418	70.9
Cervix Uteri	-	--	792	26.6	792	13.5
Corpus Uteri	-	--	719	22.3	719	11.9
Other Female Genital	-	--	684	20.4	684	10.8
Prostate	3,358	122.1	-	--	3,358	55.2
Other Male Genital	223	7.4	-	--	223	3.6
Urinary Bladder	851	29.6	303	8.0	1,154	17.5
Kidney & Other Urinary	413	14.6	290	8.6	703	11.3
Eye, Brain & Other Nervous System	232	8.4	220	6.8	452	7.5
Lymph Nodes	409	14.3	356	10.4	765	12.2
Leukemia	360	13.0	276	8.2	636	10.4
All Others	567	19.4	650	18.6	1,217	18.6
All Reportable Sites	12,131	432.0	13,157	387.2	25,288	402.9

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Male rates are cases per 100,000 male residents, female rates are cases per 100,000 female residents, and total rates are cases per 100,000 residents.

All rates are age-adjusted to the 1970 United States population.

Site groups are listed in ICD-O2 numerical code order. See Technical Notes at the end of this report for the individual sites included in each site group.

**Table 3. Number and Percent of *Invasive* Cancer Cases by Site Group and Race: Males, Wisconsin, 1998**

PRIMARY SITE	White		African American		Other		Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Mouth & Pharynx	371	3.3	18	4.0	5	4.7	2	2.0	396	3.3
Stomach	228	2.0	13	2.9	7	6.5	2	2.0	250	2.1
Colorectal	1,493	13.3	52	11.7	15	14.0	15	15.0	1,575	13.3
Pancreas	276	2.5	16	3.6	3	2.8	2	2.0	297	2.5
Other Gastrointestinal Tract	413	3.7	29	6.5	10	9.3	2	2.0	454	3.8
Trachea, Bronchus & Lung	1,716	15.3	91	20.4	13	12.1	5	5.0	1,825	15.4
Other Respiratory	246	2.2	10	2.2	3	2.8	2	2.0	261	2.2
Bone & Connective Tissue	89	0.8	7	1.6	1	0.9	3	3.0	100	0.8
Melanoma of Skin	283	2.5	0	0.0	2	1.9	7	7.0	292	2.5
Breast	40	0.3	1	0.2	1	0.9	0	0.0	42	0.4
Prostate	3,149	28.1	139	31.2	21	19.6	39	39.0	3,348	28.2
Other Male Genital	211	1.9	3	0.7	0	0.0	0	0.0	214	1.8
Urinary Bladder	828	7.4	11	2.5	5	4.7	7	7.0	851	7.2
Kidney & Other Urinary	387	3.4	9	2.0	1	0.9	4	4.0	401	3.4
Eye, Brain & Other Nervous System	218	1.9	6	1.4	4	3.7	2	2.0	230	1.9
Lymph Nodes	392	3.5	8	1.8	7	6.5	2	2.0	409	3.4
Leukemia	341	3.0	11	2.5	4	3.7	4	4.0	360	3.0
All Others	537	4.8	22	4.9	5	4.7	2	2.0	566	4.8
All Reportable Sites	11,218	100.0	446	100.0	107	100.0	100	100.0	11,871	100.0

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Percents are calculated from the total number of cases for the particular sex and race group. Small numbers of cases for minority race/ethnicity groups preclude reliable group comparisons. Site groups are listed in ICD-O2 numerical code order. See Technical Notes at the end of this report for the individual sites included in each site group.

- The most frequently reported cancers among Wisconsin males, all races combined, were prostate (28%), lung (15%), and colorectal (13%).
- Prostate cancer was the most frequently diagnosed cancer among males of all races. Lung cancer was the second most frequent diagnosis for white and African American males.



**Table 4. Number and Percent of *Invasive* Cancer Cases by Site Group and Race: Females, Wisconsin, 1998**

PRIMARY SITE	White		African American		Other		Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Mouth & Pharynx	202	1.8	5	1.4	1	0.9	6	6.0	214	1.8
Stomach	128	1.1	6	1.7	2	1.8	1	1.0	137	1.2
Colorectal	1,482	13.4	44	12.8	11	9.6	20	20.0	1,557	13.4
Pancreas	267	2.4	15	4.4	3	2.6	1	1.0	286	2.4
Other Gastrointestinal Tract	294	2.6	10	2.9	3	2.6	2	2.0	309	2.6
Trachea, Bronchus & Lung	1,340	12.1	48	13.9	11	9.6	4	4.0	1,403	12.0
Other Respiratory	78	0.7	6	1.7	2	1.8	0	0.0	86	0.7
Bone & Connective Tissue	61	0.6	4	1.2	1	0.9	1	1.0	67	0.6
Melanoma of Skin	229	2.1	1	0.3	0	0.0	8	8.0	238	2.0
Breast	3,555	32.0	103	29.9	32	28.1	27	27.0	3,717	31.9
Cervix Uteri	218	2.0	23	6.7	12	10.5	3	3.0	256	2.2
Corpus Uteri	685	6.2	10	2.9	4	3.5	7	7.0	706	6.0
Other Female Genital	576	5.2	7	2.0	11	9.6	6	6.0	600	5.1
Urinary Bladder	296	2.7	5	1.4	1	0.9	1	1.0	303	2.6
Kidney & Other Urinary	270	2.4	11	3.2	3	2.6	1	1.0	285	2.4
Eye, Brain & Other Nervous System	212	1.9	4	1.2	2	1.8	2	2.0	220	1.9
Lymph Nodes	336	3.0	13	3.8	5	4.4	2	2.0	356	3.0
Leukemia	262	2.4	7	2.0	2	1.8	5	5.0	276	2.4
All Others	616	5.6	23	6.7	8	7.0	3	3.0	650	5.6
All Reportable Sites	11,107	100.0	345	100.0	114	100.0	100	100.0	11,666	100.0

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Percents are calculated from the total number of cases for the particular sex and race group. Small numbers of cases reported for minority race/ethnicity groups preclude reliable group comparisons. Site groups are listed in ICD-O2 numerical code order. See Technical Notes at the end of this report for the individual sites included in each site group.

- The most frequently reported cancers among Wisconsin females, all races combined, were breast (32%), colorectal (13%), and lung (12%).
- Breast cancer was the most frequently diagnosed cancer for women of all races. Colorectal cancer was the second most frequently diagnosed cancer among white women, while lung cancer was second among African American women.

**Table 5. Number and Age-Adjusted Rate of *Invasive* Cancer Cases by Major Site Group and Region, Wisconsin, 1998**

PRIMARY SITE		REGION					
		SOUTH	SOUTHEAST	NORTHEAST	WEST	NORTH	TOTAL
Colorectal	NUMBER	535	1,114	700	436	347	3,132
	RATE	47.3	47.0	46.9	45.5	51.5	47.3
Other Gastrointestinal Tract	NUMBER	389	890	527	280	257	2,343
	RATE	34.3	39.0	35.9	30.8	38.6	36.4
Respiratory	NUMBER	580	1,417	796	424	358	3,575
	RATE	54.4	63.8	57.6	48.5	57.1	58.0
Breast	NUMBER	664	1,414	834	467	380	3,759
	RATE	61.1	61.5	59.8	53.7	60.7	59.9
Female Genital	NUMBER	287	559	404	165	147	1,562
	RATE	26.6	24.4	29.5	19.4	24.1	25.2
Male Genital	NUMBER	499	1,383	840	435	405	3,562
	RATE	48.3	63.3	60.4	51.0	64.2	58.5
Urinary Tract	NUMBER	288	671	456	249	176	1,840
	RATE	26.0	29.4	30.6	27.5	26.3	28.5
Leukemia & Lymph Nodes	NUMBER	252	529	286	170	164	1,401
	RATE	23.6	23.5	21.0	19.1	26.0	22.6
All Others	NUMBER	465	812	562	294	230	2,363
	RATE	42.5	34.8	41.0	32.5	37.1	37.4
All Reportable Sites	NUMBER	3,959	8,789	5,405	2,920	2,464	23,537
	RATE	364.1	386.8	382.6	328.0	385.5	373.7

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Rates are cases per 100,000 residents, age-adjusted to the 1970 United States population.

The regions used are the Department of Health and Family Services Regions; see Map on page 63 for regional boundaries.

See Technical Notes at the end of this report for the individual sites included in each major site group. In this table, the major site group "Other Gastrointestinal Tract" includes the site group "Mouth and Pharynx."

- Regional age-adjusted cancer incidence rates ranged from 328.0 per 100,000 population in the Western region to 386.8 per 100,000 population in the Southeastern region.

**Table 6. Number and Age-Adjusted Rate of *Invasive* Cancer Cases by Major Site Group, Counties Over 100,000 Population, Wisconsin, 1998**

Primary Site		Brown	Dane	Kenosha	La Crosse	Marathon	Milwaukee	Outagamie
Colorectal	Number	91	176	73	65	67	555	87
	Rate	37.2	44.6	45.7	49.0	42.0	47.8	50.9
Other Gastro-Intestinal Tract	Number	85	145	68	51	63	473	63
	Rate	35.7	35.5	42.6	41.2	39.5	43.1	35.0
Respiratory	Number	93	198	105	54	74	739	112
	Rate	39.5	52.6	67.4	46.3	51.1	69.3	68.1
Breast	Number	116	261	89	85	84	656	113
	Rate	49.2	65.1	55.3	74.0	54.4	59.8	67.7
Female Genital	Number	62	111	36	21	35	321	62
	Rate	26.9	27.2	22.9	15.1	23.2	29.5	37.1
Male Genital	Number	168	176	89	63	82	621	89
	Rate	74.6	49.3	56.0	55.4	56.0	59.4	53.2
Urinary Tract	Number	59	89	38	33	35	350	63
	Rate	23.5	22.4	23.6	28.0	21.4	32.5	35.8
Leukemia & Lymph Nodes	Number	43	96	41	20	30	251	43
	Rate	18.2	24.2	26.5	14.9	20.3	22.2	24.8
All Others	Number	77	215	33	55	53	370	81
	Rate	32.6	50.4	19.9	46.6	35.6	32.6	48.1
All Reportable Sites		794	1,467	572	447	523	4,336	713
		337.6	371.4	359.9	370.5	343.4	396.1	420.8

(table continued on next page)

**Table 6. Number and Age-Adjusted Rate of *Invasive* Cancer Cases by Major Site Group, Counties Over 100,000 Population, Wisconsin, 1998 (continued)**

Primary Site		Racine	Rock	Sheboygan	Waukesha	Washington	Winnebago	State Total
Colorectal	Number	102	84	67	179	59	103	3,132
	Rate	45.3	42.6	43.9	45.9	46.0	49.8	47.3
Other Gastro- Intestinal Tract	Number	82	76	64	129	42	84	2,343
	Rate	37.3	39.3	42.0	32.9	31.9	43.9	36.4
Respiratory	Number	137	112	67	209	67	112	3,575
	Rate	66.1	62.6	49.0	55.0	54.1	62.5	58.0
Breast	Number	146	112	94	266	90	126	3,759
	Rate	66.1	61.9	67.7	65.8	70.5	68.8	59.9
Female Genital	Number	44	52	43	67	24	55	1,562
	Rate	19.7	29.1	31.3	17.3	18.0	29.7	25.2
Male Genital	Number	158	84	89	266	72	92	3,562
	Rate	75.2	48.5	63.1	71.5	57.5	51.0	58.5
Urinary Tract	Number	61	57	49	105	31	75	1,840
	Rate	26.6	31.3	32.1	27.6	23.3	38.4	28.5
Leukemia & Lymph Nodes	Number	56	43	27	82	33	36	1,401
	Rate	26.7	24.8	19.8	22.6	26.4	20.2	22.6
All Others	Number	83	73	64	160	42	90	2,363
	Rate	36.8	41.7	44.1	40.7	32.4	51.8	37.4
All Reportable Sites	Number	869	693	564	1,463	460	773	23,537
	Rate	399.8	381.8	393.0	379.3	360.1	416.2	373.7

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Rates are cases per 100,000 residents, age-adjusted to the 1970 United States population.  
See Technical Notes at the end of this report for the individual sites included in each major site group. In this table, the major site group "Other Gastrointestinal Tract" includes the site group "Mouth and Pharynx."

- In 1998, the 13 most populous counties in Wisconsin had age-adjusted cancer incidence rates that ranged from 338 per 100,000 to 421 per 100,000, in relation to the statewide rate of 374 per 100,000.

**Table 7. Number of *Invasive* Cancer Cases by Site Group, Age and Sex, Wisconsin, 1998**

PRIMARY SITE	AGE AND SEX														
				0-19		20-24		25-29		30-34		35-39		40-44	
	Total	Males	Females	M	F	M	F	M	F	M	F	M	F	M	F
Mouth & Pharynx	610	396	214	1	2	0	0	1	4	4	3	5	6	25	9
Stomach	387	250	137	0	0	1	0	1	1	5	1	3	1	10	2
Colorectal	3,132	1,575	1,557	0	1	1	1	2	4	3	8	11	13	25	20
Pancreas	583	297	286	0	0	0	0	1	0	1	2	3	1	5	5
Other Gastrointestinal Tract	763	454	309	5	3	1	1	1	1	1	2	3	3	18	10
Trachea, Bronchus & Lung	3,228	1,825	1,403	1	0	1	2	1	1	3	3	6	9	20	22
Other Respiratory	347	261	86	1	2	1	0	2	1	2	5	5	1	9	1
Bone & Connective Tissue	167	100	67	15	10	1	0	7	1	4	0	1	5	7	3
Melanoma of Skin	530	292	238	3	4	6	4	5	9	13	16	20	27	21	32
Breast	3,759	42	3,717	0	0	0	3	0	17	0	57	0	128	1	221
Cervix Uteri	256	0	256	0	2	0	11	0	24	0	33	0	31	0	27
Corpus Uteri	706	0	706	0	0	0	0	0	1	0	7	0	9	0	17
Other Female Genital	600	0	600	0	5	0	6	0	8	0	7	0	19	0	37
Prostate	3,348	3,348	0	0	0	0	0	0	0	0	0	0	0	4	0
Other Male Genital	214	214	0	4	0	16	0	29	0	45	0	41	0	20	0
Urinary Bladder	1,154	851	303	2	1	2	0	0	0	3	2	10	3	12	3
Kidney & Other Urinary	686	401	285	7	10	0	0	0	2	4	4	8	6	20	8
Eye, Brain & Other Nervous System	450	230	220	18	15	4	1	7	5	12	9	10	12	22	18
Lymph Nodes	765	409	356	19	10	11	8	18	12	18	6	16	10	24	22
Leukemia	636	360	276	39	24	5	3	5	6	5	3	8	4	16	8
All Others	1,216	566	650	11	13	4	7	5	26	7	27	18	34	19	41
All Reportable Sites	23,537	11,871	11,666	126	102	54	47	85	123	130	195	168	322	278	506

(Table continued on next page)

**Table 7. Number of Cancer Cases by Site Group, Age and Sex, Wisconsin, 1998 (Continued)**

	AGE AND SEX																	
	45-49		50-54		55-59		60-64		65-69		70-74		75-79		80-84		85+	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Mouth & Pharynx	32	11	53	12	44	24	45	26	46	27	56	35	33	24	29	11	22	20
Stomach	14	4	12	4	20	6	18	11	35	19	41	20	41	21	27	20	22	27
Colorectal	70	38	88	70	124	84	175	135	251	170	311	248	204	271	200	241	110	253
Pancreas	13	6	22	17	24	15	41	21	41	37	53	43	47	42	21	45	25	52
Other Gastrointestinal Tract	34	12	31	15	33	20	59	18	60	35	72	55	56	49	46	47	34	38
Trachea, Bronchus & Lung	53	37	120	92	170	123	225	171	324	236	362	273	280	209	165	151	94	74
Other Respiratory	16	4	23	8	28	3	38	11	40	8	38	8	32	13	17	13	9	8
Bone & Connective Tissue	3	5	7	7	8	3	7	4	15	1	12	7	8	9	3	5	2	7
Melanoma of Skin	20	19	25	14	30	15	22	15	32	19	33	22	27	15	19	14	16	13
Breast	2	321	2	374	6	385	8	405	6	413	4	419	7	387	4	314	2	273
Cervix Uteri	0	29	0	28	0	10	0	8	0	13	0	9	0	15	0	9	0	7
Corpus Uteri	0	44	0	67	0	106	0	86	0	94	0	100	0	78	0	58	0	39
Other Female Genital	0	53	0	49	0	50	0	51	0	64	0	83	0	70	0	57	0	41
Prostate	47	0	170	0	283	0	488	0	682	0	690	0	535	0	277	0	172	0
Other Male Genital	15	0	6	0	7	0	6	0	4	0	6	0	8	0	5	0	2	0
Urinary Bladder	24	5	48	17	54	24	81	20	132	37	151	44	153	56	102	51	77	40
Kidney & Other Urinary	32	12	39	16	41	26	36	35	54	31	50	37	53	43	36	26	21	29
Eye, Brain & Other Nervous System	17	13	21	13	20	16	22	13	24	27	24	27	9	22	8	18	12	11
Lymph Nodes	28	25	37	22	27	27	23	24	42	36	42	45	40	34	39	39	25	36
Leukemia	13	8	22	9	24	17	30	23	43	36	42	38	40	32	39	28	29	37
All Others	32	34	32	46	37	44	43	53	61	53	88	66	82	70	75	56	52	80
All Reportable Sites	465	680	758	880	980	998	1,367	1,130	1,892	1,356	2,075	1,579	1,655	1,460	1,112	1,203	726	1,085

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Age groupings vary in this table; childhood cancers (0-19) are followed by 5-year groupings.  
See Technical Notes at the end of this report for the individual sites included in each site group.

- The most common cancers among children are relatively rare among adults. In 1998, the four most common childhood cancers were leukemia (27%); eye, brain and other central nervous system cancers (14%); lymphomas (13%); and bone and connective tissue cancers (11%). These cancers accounted for nearly three-fourths of all childhood cancers, but less than one-tenth of all adult cancers.

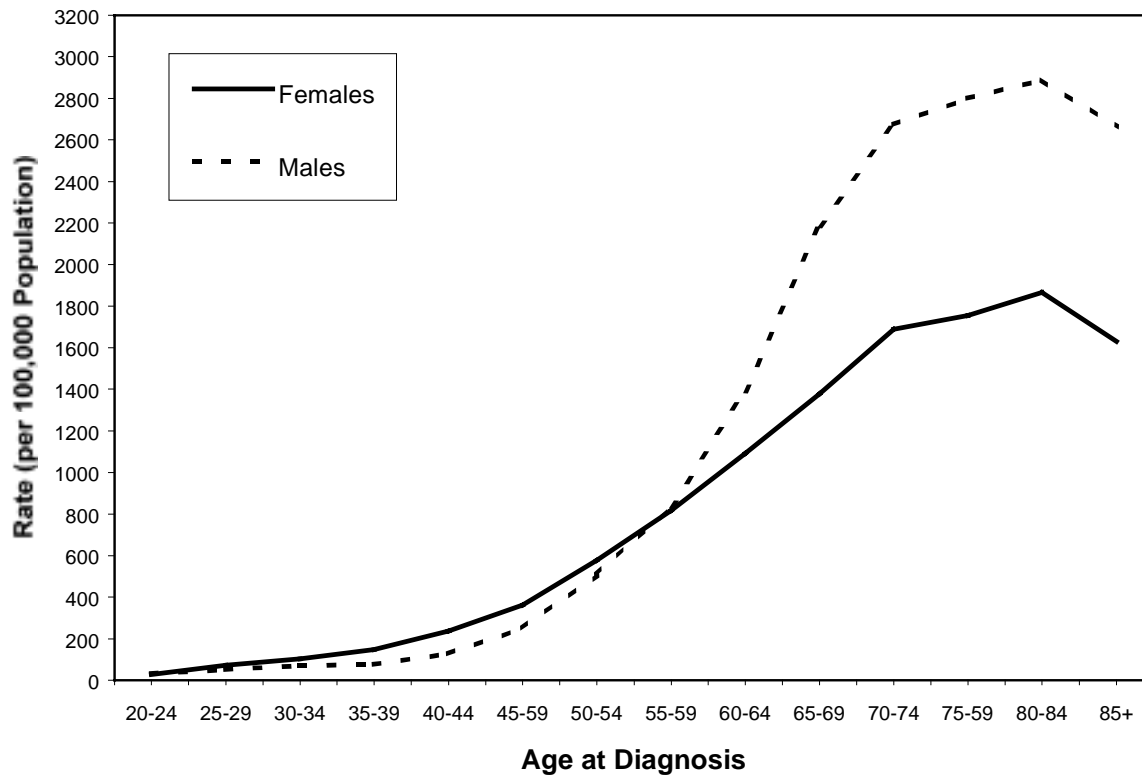
**Table 8. Number of *Invasive* Cancer Cases by Race, Age and Sex, Wisconsin, 1998**

	AGE GROUP							TOTAL
	0 - 14	15 - 24	25 - 44	45 - 64	65 - 74	75 - 84	85 +	
MALES								
White	77	81	592	3,309	3,782	2,668	709	11,218
African American	11	3	43	193	135	52	9	446
Other	3	1	19	41	25	15	3	107
Unknown	3	1	7	27	25	32	5	100
Total Males	94	86	661	3,570	3,967	2,767	726	11,871
FEMALES								
White	60	73	1,056	3,457	2,820	2,591	1,050	11,107
African American	4	3	61	148	69	39	21	345
Other	0	1	21	44	26	19	3	114
Unknown	6	2	8	39	20	14	11	100
Total Females	70	79	1,146	3,688	2,935	2,663	1,085	11,666
All Reportable Sites	166	166	1,807	7,258	6,902	5,430	1,808	23,537

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

- The largest number of cancer cases among white males was reported for the age group 65-74. Among African-American males and males in the 'Other' race category, the largest number of cases reported was in the 45-64 age group.
- The largest number of cases among females was in the 45-64 age group, for all race categories.

**Figure 1. Age-Specific *Invasive* Cancer Incidence Rates, by Sex, Wisconsin, 1998**

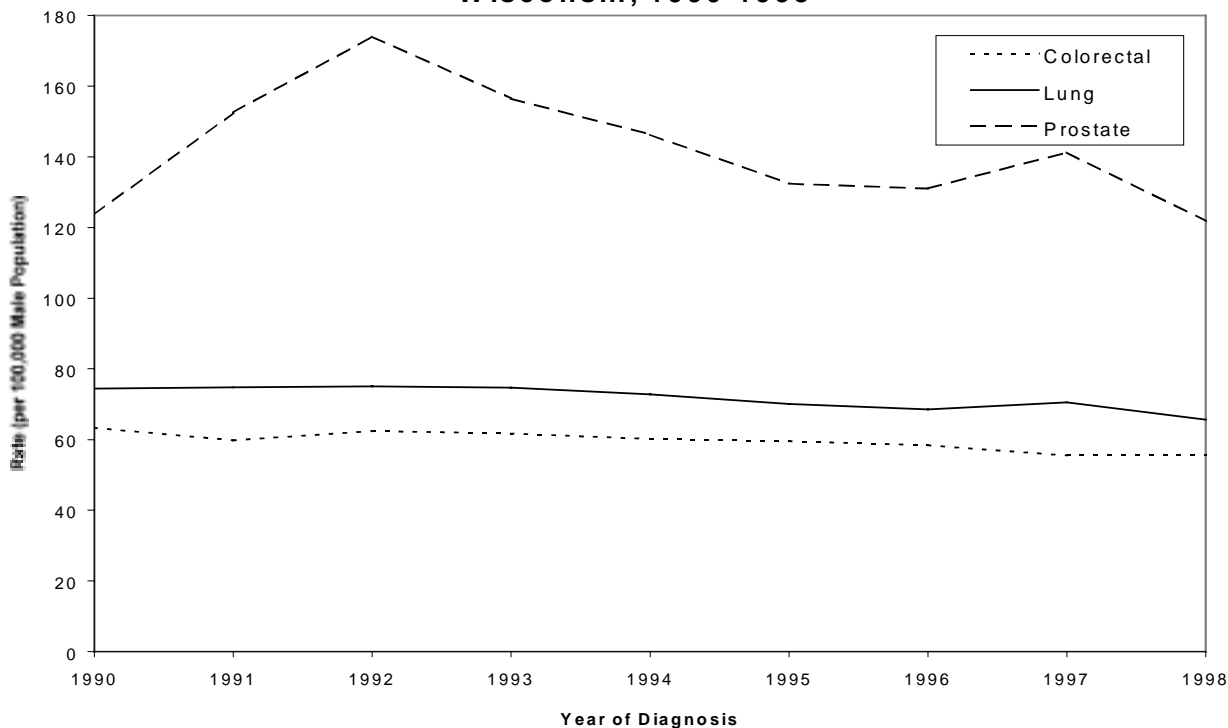


Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

- In general, cancer incidence increases with age for both males and females (until about age 80). Males have a lower incidence rate than females until about age 55, after which point male cancer incidence is noticeably higher.



**Figure 2. Age-Adjusted Male *Invasive* Cancer Incidence Rates, Wisconsin, 1990-1998**



Source: Wisconsin Cancer Reporting System, Division of Health Care Financing, Department of Health and Family Services

**Figure 3. Age-Adjusted Female *Invasive* Cancer Incidence Rates, Wisconsin, 1990-1998**



Source: Wisconsin Cancer Reporting System, Division of Health Care Financing, Department of Health and Family Services

**Table 9. Number and Percent of *In Situ*/Invasive Combined Cancer Cases by Site Group and Stage of Disease, Wisconsin, 1998**

	STAGE OF DISEASE										
	IN SITU		LOCAL		REGIONAL		DISTANT		NOT STATED		TOTAL
PRIMARY SITE	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Mouth & Pharynx	11	1.8	295	47.5	264	42.5	34	5.5	17	2.7	621
Stomach	4	1.0	97	24.8	140	35.8	113	28.9	37	9.5	391
Colorectal	190	5.7	1,143	34.4	1,315	39.6	517	15.6	157	4.7	3,322
Pancreas	0	0.0	90	15.4	187	32.1	247	42.4	59	10.1	583
Other Gastrointestinal Tract	17	2.2	238	30.5	230	29.5	208	26.7	87	11.2	780
Trachea, Bronchus & Lung	6	0.2	814	25.2	937	29.0	1,275	39.4	202	6.2	3,234
Other Respiratory	12	3.3	186	51.8	113	31.5	26	7.2	22	6.1	359
Bone & Connective Tissue	0	0.0	91	54.5	33	19.8	33	19.8	10	6.0	167
Melanoma of Skin	180	25.4	446	62.8	32	4.5	24	3.4	28	3.9	710
Breast	659	14.9	2,545	57.6	990	22.4	150	3.4	74	1.7	4,418
Cervix Uteri	536	67.7	124	15.7	79	10.0	14	1.8	39	4.9	792
Corpus Uteri	13	1.8	542	75.4	96	13.4	47	6.5	21	2.9	719
Other Female Genital	84	12.3	208	30.4	131	19.2	237	34.6	24	3.5	684
Prostate	10	0.3	2,694	80.2	331	9.9	191	5.7	132	3.9	3,358
Other Male Genital	9	4.0	151	67.7	36	16.1	24	10.8	3	1.3	223
Urinary Bladder	279	24.2	691	59.9	120	10.4	33	2.9	31	2.7	1,154
Kidney & Other Urinary	17	2.4	380	54.1	121	17.2	151	21.5	34	4.8	703
Eye, Brain & Other Nervous System	2	0.4	331	73.2	59	13.1	16	3.5	44	9.7	452
Lymph Nodes	0	0.0	205	26.8	177	23.1	383	50.1	0	0.0	765
Leukemia	0	0.0	0	0.0	0	0.0	636	100.0	0	0.0	636
All Others	1	0.1	312	25.6	115	9.4	513	42.2	276	22.7	1,217
All Reportable Sites	2,030	8.0	11,583	45.8	5,506	21.8	4,872	19.3	1,297	5.1	25,288

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: See Technical Notes at the end of this report for definitions of the “stage of disease” categories and the individual sites included in each site group.

- Over one-half (54%) of all Wisconsin cancers in 1998 were diagnosed at an early stage (*in situ* or local), before the cancer had spread beyond the site of origin. Prostate, cervical, uterine and central nervous system cancers were diagnosed early in a high proportion of cases (over 70%). Lung and pancreatic cancers were more frequently diagnosed at a late (regional or distant) stage (68% and 74%, respectively).

**Table 10. Percent of *In Situ/Invasive Combined* Cancer Cases by Site Group and Diagnostic Confirmation, Wisconsin, 1998**

PRIMARY SITE	POSITIVE HISTOLOGY	TYPE OF DIAGNOSTIC CONFIRMATION								TOTAL (NUMBER)
		CYTO- LOGY/ BLOOD	MICRO- SCOPIC NOS	LAB TEST/ MARKER	SURGICAL OBSER- VATION	IMAGING	OTHER CLINICAL METHODS	AUTOPSY	NOT STATED	
Mouth & Pharynx	98.9	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.6	621
Stomach	97.7	0.0	0.3	0.0	0.0	1.0	0.3	0.3	0.5	391
Colorectal	97.6	0.1	0.1	0.0	0.3	0.7	0.1	0.1	1.0	3,322
Pancreas	60.5	10.8	0.5	0.7	3.3	15.6	0.5	0.7	7.4	583
Other Gastro- Intestinal Tract	85.8	5.9	2.9	0.3	0.8	1.7	0.1	0.5	2.1	780
Trachea, Bronchus & Lung	78.1	11.6	0.4	0.1	0.5	5.9	0.4	0.2	2.8	3,234
Other Respiratory	95.3	2.2	0.6	0.0	0.3	0.3	0.0	0.3	1.1	359
Bone & Connective Tissue	98.2	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	167
Melanoma of Skin	99.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.3	710
Breast	98.7	0.2	0.2	0.0	0.2	0.3	0.1	0.0	0.2	4,418
Cervix Uteri	99.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	792
Corpus Uteri	99.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.6	719
Other Female Genital	93.3	3.4	0.1	0.4	0.0	1.5	0.0	0.1	1.2	684
Prostate	97.1	0.2	0.1	1.4	0.1	0.1	0.4	0.0	0.6	3,358
Other Male Genital	98.2	0.0	0.9	0.0	0.0	0.0	0.0	0.4	0.4	223
Urinary Bladder	97.2	0.9	1.0	0.0	0.3	0.1	0.0	0.1	0.4	1,154
Kidney & Other Urinary	86.1	2.8	6.1	0.0	0.3	3.3	0.3	0.0	1.1	703
Eye, Brain & Other Nervous System	84.5	0.4	9.1	0.0	0.7	3.3	0.0	0.4	1.5	452
Lymph Nodes	95.2	1.3	1.3	0.0	0.0	0.3	0.0	0.0	2.0	765
Leukemia	78.0	4.2	11.3	1.7	0.0	0.0	0.2	0.6	3.9	636
All Others	80.2	5.5	1.8	0.6	0.6	5.8	0.6	0.2	4.8	1,217
All Reportable Sites										
Percent	92.1	2.7	1.1	0.3	0.3	1.8	0.2	0.1	1.4	100.0
Number	23,282	686	267	76	78	461	51	32	355	25,288

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Cancers listed under "Microscopic NOS" (not otherwise specified) were diagnosed microscopically but without specification of positive histology or cytology.

Percents may not add to 100 due to rounding.

See Technical Notes at the end of this report for definitions of type of diagnostic confirmation.

**Table 11. Number and Percent of *In Situ/Invasive Combined* Cancer Cases by Site Group and Tumor Cell Type, Wisconsin, 1998**

PRIMARY SITE	CELL TYPE GROUP									
	CARCINOMA/ ADENOCARCINOMA		OTHER SOLID		NON-SOLID		UNKNOWN		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Mouth & Pharynx	536	86.3	48	7.7	34	5.5	3	0.5	621	100.0
Stomach	327	83.6	9	2.3	48	12.3	7	1.8	391	100.0
Colorectal	3,252	97.9	11	0.3	8	0.2	51	1.5	3,322	100.0
Pancreas	472	81.0	6	1.0	2	0.3	103	17.7	583	100.0
Other Gastrointestinal Tract	670	85.9	35	4.5	44	5.6	31	4.0	780	100.0
Trachea, Bronchus & Lung	2,929	90.6	54	1.7	16	0.5	235	7.3	3,234	100.0
Other Respiratory	251	70.0	88	24.5	16	4.5	4	1.1	359	100.0
Bone & Connective Tissue	0	0.0	141	84.4	25	15.0	1	0.6	167	100.0
Melanoma of Skin	0	0.0	710	100.0	0	0.0	0	0.0	710	100.0
Breast	4,343	98.3	35	0.8	8	0.2	32	0.7	4,418	100.0
Cervix Uteri	779	98.4	11	1.4	0	0.0	2	0.3	792	100.0
Corpus Uteri	647	90.0	66	9.2	0	0.0	6	0.8	719	100.0
Other Female Genital	600	87.7	67	9.8	0	0.0	17	2.5	684	100.0
Prostate	3,331	99.2	0	0.0	0	0.0	27	0.8	3,358	100.0
Other Male Genital	24	10.8	192	86.1	6	2.7	1	0.4	223	100.0
Urinary Bladder	1,111	96.3	32	2.8	1	0.1	10	0.9	1,154	100.0
Kidney & Other Urinary	652	92.8	25	3.6	2	0.3	24	3.4	703	100.0
Eye, Brain & Other Nervous System	4	0.9	397	87.8	31	6.9	20	4.4	452	100.0
Lymph Nodes	0	0.0	0	0.0	765	100.0	0	0.0	765	100.0
Leukemia	0	0.0	0	0.0	636	100.0	0	0.0	636	100.0
All Others	509	41.8	275	22.6	328	27.0	105	8.6	1,217	100.0
All Reportable Sites	20,437	80.8	2,202	8.7	1,970	7.8	679	2.7	25,288	100.0

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Percents may not add to 100 due to rounding.

See Technical Notes at the end of this report for the individual sites included in each site group.

- Tumor cell type is often closely related to the type of tissue in which the tumor originated. The majority of cancers reported (81%) were solid tumors such as carcinomas (developing from epithelial cells in the skin or organ surface) and adenocarcinomas (tumors developed from glandular tissue).
- Other solid tumors include sarcomas (originating from bone, cartilage, fat, muscle, or other connective tissue), nerve cell and germ cell tumors. Lymphomas, leukemias and plasma cell tumors are nonsolid tumors.

**Table 12. Number and Age-Adjusted Rate of Cancer Deaths by Site Group and Sex, Wisconsin, 1998**

PRIMARY SITE	MALE		FEMALE		TOTAL	
	Number	Rate	Number	Rate	Number	Rate
Mouth & Pharynx	117	4.1	59	1.7	176	2.8
Stomach	133	4.5	85	2.0	218	3.1
Colorectal	559	19.2	569	12.9	1,128	15.7
Pancreas	290	10.2	286	7.0	576	8.4
Other Gastrointestinal Tract	402	13.9	255	6.2	657	9.7
Trachea, Bronchus & Lung	1,651	57.8	1,148	32.4	2,799	43.2
Other Respiratory	62	2.2	24	0.7	86	1.3
Bone & Connective Tissue	54	1.8	53	1.5	107	1.7
Melanoma of Skin	91	3.1	52	1.4	143	2.1
Breast	10	0.4	854	22.3	864	12.4
Cervix Uteri	-	--	59	1.8	59	0.9
Corpus Uteri	-	--	71	1.9	71	1.1
Other Female Genital	-	--	392	10.4	392	5.7
Prostate	751	23.7	-	--	751	9.3
Other Male Genital	10	0.3	-	--	10	0.1
Urinary Bladder	164	5.4	78	1.6	242	3.1
Kidney & Other Urinary	157	5.3	86	2.2	243	3.6
Eye, Brain & Other Nervous System	137	4.9	156	4.7	293	4.8
Lymphoma	294	9.8	277	6.7	571	8.0
Leukemia	249	8.5	218	5.5	467	6.7
All Others	516	17.7	494	11.9	1,010	14.4
Total Cancer Deaths	5,647	192.8	5,216	134.5	10,863	158.2

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Male rates are deaths per 100,000 male residents, female rates are deaths per 100,000 female residents and total rates are deaths per 100,000 residents.  
 All rates are age-adjusted to the 1970 United States population.  
 "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49).  
 See Technical Notes at the end of this report for the individual sites included in each site group.

- The 1998 Wisconsin age-adjusted cancer mortality rate, 158 per 100,000, was lower than the 1997 national (SEER) rate, 164 per 100,000.
- Wisconsin's cancer mortality rate (158 per 100,000 population) has declined since 1990 (168 per 100,000 population).
- The male mortality rate for all cancers, 193 per 100,000 population, was higher than the female mortality rate for all cancers, 134 per 100,000. Males have historically had higher rates of cancer mortality, both nationally and in Wisconsin.

**Table 13. Number and Percent of Cancer Deaths by Site Group and Race: Males, Wisconsin, 1998**

PRIMARY SITE	White		African American		Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Mouth & Pharynx	104	1.9	9	4.0	4	7.7	117	2.1
Stomach	118	2.2	10	4.4	5	9.6	133	2.4
Colorectal	535	10.0	20	8.9	4	7.7	559	9.9
Pancreas	273	5.1	14	6.2	3	5.8	290	5.1
Other Gastrointestinal Tract	372	6.9	23	10.2	7	13.5	402	7.1
Trachea, Bronchus & Lung	1,558	29.0	80	35.6	13	25.0	1,651	29.2
Other Respiratory	59	1.1	3	1.3	0	0.0	62	1.1
Bone & Connective Tissue	54	1.0	0	0.0	0	0.0	54	1.0
Melanoma of Skin	91	1.7	0	0.0	0	0.0	91	1.6
Breast	9	0.2	1	0.4	0	0.0	10	0.2
Prostate	714	13.3	32	14.2	5	9.6	751	13.3
Other Male Genital	10	0.2	0	0.0	0	0.0	10	0.2
Urinary Bladder	160	3.0	4	1.8	0	0.0	164	2.9
Kidney & Other Urinary	154	2.9	2	0.9	1	1.9	157	2.8
Eye, Brain & Other Nervous System	136	2.5	0	0.0	1	1.9	137	2.4
Lymphoma	282	5.3	6	2.7	6	11.5	294	5.2
Leukemia	242	4.5	6	2.7	1	1.9	249	4.4
All Others	499	9.3	15	6.7	2	3.8	516	9.1
Total Cancer Deaths	5,370	100.0	225	100.0	52	100.0	5,647	100.0

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49).

Percents are calculated from the total number of deaths in each race category.

See Technical Notes at the end of this report for the individual sites included in each site group.

- The three leading sites of cancer deaths among Wisconsin males, all races combined, in 1998 were lung cancer (29%), prostate cancer (13%), and colorectal cancer (10%).
- Lung cancer was the leading cause of cancer death among males of all races. Prostate cancer was the second leading cause of cancer death for white and African American males.

**Table 14. Number and Percent of Cancer Deaths by Site Group and Race: Females, Wisconsin, 1998**

PRIMARY SITE	White		African American		Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Mouth & Pharynx	57	1.1	2	1.1	0	0.0	59	1.1
Stomach	73	1.5	6	3.4	6	13.3	85	1.6
Colorectal	541	10.8	25	14.1	3	6.7	569	10.9
Pancreas	273	5.5	10	5.6	3	6.7	286	5.5
Other Gastrointestinal Tract	242	4.8	11	6.2	2	4.4	255	4.9
Trachea, Bronchus & Lung	1,106	22.1	33	18.6	9	20.0	1,148	22.0
Other Respiratory	24	0.5	0	0.0	0	0.0	24	0.5
Bone & Connective Tissue	50	1.0	3	1.7	0	0.0	53	1.0
Melanoma of Skin	51	1.0	1	0.6	0	0.0	52	1.0
Breast	814	16.3	33	18.6	7	15.6	854	16.4
Cervix Uteri	52	1.0	7	4.0	0	0.0	59	1.1
Corpus Uteri	71	1.4	0	0.0	0	0.0	71	1.4
Other Female Genital	381	7.6	9	5.1	2	4.4	392	7.5
Urinary Bladder	78	1.6	0	0.0	0	0.0	78	1.5
Kidney & Other Urinary	82	1.6	2	1.1	2	4.4	86	1.6
Eye, Brain & Other Nervous System	154	3.1	2	1.1	0	0.0	156	3.0
Lymphoma	269	5.4	5	2.8	3	6.7	277	5.3
Leukemia	205	4.1	13	7.3	0	0.0	218	4.2
All Others	471	9.4	15	8.5	8	17.8	494	9.5
Total Cancer Deaths	4,994	100.0	177	100.0	45	100.0	5,216	100.0

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49).

Percents are calculated from the total number of deaths in each race category.

See Technical Notes at the end of this report for the individual sites included in each site group.

- The three leading sites of cancer deaths among Wisconsin females (all races combined) in 1998 were lung cancer (22%), breast cancer (16%), and colorectal cancer (11%).
- As in 1997, lung cancer was the leading cause of female cancer deaths in all race groups in 1998, accounting for 19 percent of African-American, 22 percent of white, and 20 percent of "Other" female cancer deaths.

**Table 15. Number and Age-Adjusted Rate of Cancer Deaths by Major Site Group and Region, Wisconsin, 1998**

PRIMARY SITE		DHFS REGION					
		SOUTH	SOUTHEAST	NORTHEAST	WEST	NORTH	TOTAL
Colorectal	NUMBER	182	392	264	176	114	1,128
	RATE	14.9	15.5	16.4	16.4	15.2	15.7
Other Gastrointestinal Tract	NUMBER	240	612	364	238	173	1,627
	RATE	20.0	25.5	23.7	24.5	24.5	23.9
Respiratory	NUMBER	483	1,104	619	392	287	2,885
	RATE	43.9	47.7	42.1	42.6	42.4	44.5
Breast	NUMBER	150	339	168	107	100	864
	RATE	12.6	13.5	10.9	10.6	14.3	12.4
Female Genital	NUMBER	86	197	132	60	47	522
	RATE	7.6	8.1	8.4	6.6	6.5	7.7
Male Genital	NUMBER	112	276	186	112	75	761
	RATE	8.2	9.9	10.1	9.3	8.7	9.4
Urinary Tract	NUMBER	83	185	116	56	45	485
	RATE	6.7	7.4	6.9	5.0	6.2	6.7
Lymphoma & Leukemia	NUMBER	174	385	228	140	111	1,038
	RATE	14.7	15.5	14.6	13.0	15.3	14.8
All Others	NUMBER	284	551	321	228	169	1,553
	RATE	24.2	22.9	21.0	24.0	24.6	23.0
Total Cancer Deaths	NUMBER	1,794	4,041	2,398	1,509	1,121	10,863
	RATE	152.7	166.0	154.0	152.0	157.8	158.2

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: Rates are deaths per 100,000 residents, age-adjusted to the 1970 United States population.  
The regions used are the Department of Health and Family Services Regions; see Map on page 63 for regional boundaries.  
“Total cancer deaths” include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49).

See Technical Notes at the end of this report for the individual sites included in each major site group.

- Regional age-adjusted cancer mortality rates ranged from 152 deaths per 100,000 population in the Western region to 166 deaths per 100,000 population in the Southeastern region. The statewide rate was 158 per 100,000 population.



**Table 16. Number and Age-Adjusted Rate of Cancer Deaths by Major Site Group, Counties Over 100,000 Population, Wisconsin, 1998**

Primary Site		Brown	Dane	Kenosha	La Crosse	Marathon	Milwaukee	Outagamie
Colorectal	Number	51	51	23	22	34	214	25
	Rate	20.6	11.3	13.9	14.4	22.0	17.4	13.3
Other Gastro-Intestinal Tract	Number	53	75	38	29	52	316	49
	Rate	22.9	17.8	23.2	23.3	32.5	27.5	27.3
Respiratory	Number	91	137	91	51	70	553	90
	Rate	38.0	36.9	55.6	44.0	44.0	49.8	51.5
Breast	Number	39	57	17	17	19	176	14
	Rate	16.0	13.6	-	-	-	14.2	-
Female Genital	Number	22	29	12	13	10	103	11
	Rate	8.6	7.2	-	-	-	8.5	-
Male Genital	Number	19	36	10	20	15	144	21
	Rate	-	8.4	-	12.4	-	10.3	9.2
Urinary Tract	Number	22	32	5	6	11	90	8
	Rate	7.4	7.6	-	-	-	7.2	-
Leukemia & Lymph Nodes	Number	37	66	20	20	19	197	24
	Rate	14.4	15.7	10.1	14.8	-	16.2	12.4
All Others	Number	44	92	38	34	34	269	37
	Rate	16.9	22.2	21.6	26.0	21.4	23.1	19.7
Total Cancer Deaths	Number	378	575	254	212	264	2,062	279
	Rate	151.2	140.8	148.5	162.7	163.1	174.2	152.1

(Table continued on next page)

**Table 16. Number and Age-Adjusted Rate of Cancer Deaths by Major Site Group, Counties Over 100,000 Population, Wisconsin, 1998 (continued)**

Primary Site		Racine	Rock	Sheboygan	Waukesha	Washington	Winnebago	State Total
Colorectal	Number	29	39	23	51	22	28	1,128
	Rate	11.3	18.3	14.5	12.3	17.3	12.7	15.7
Other Gastro-Intestinal Tract	Number	54	46	35	107	24	51	1,627
	Rate	23.9	23.0	19.6	26.5	18.1	24.4	23.9
Respiratory	Number	131	103	53	161	44	81	2,885
	Rate	60.6	55.5	35.2	40.7	34.2	43.5	44.5
Breast	Number	31	23	20	57	15	20	864
	Rate	13.4	11.1	11.7	13.4	-	10.3	12.4
Female Genital	Number	11	10	16	36	7	21	522
	Rate	-	-	-	9.4	-	10.3	7.7
Male Genital	Number	26	15	13	45	15	23	761
	Rate	10.1	-	-	10.8	-	10.1	9.4
Urinary Tract	Number	23	9	11	29	13	21	485
	Rate	9.3	-	-	7.6	-	9.5	6.7
Leukemia & Lymph Nodes	Number	35	24	26	63	19	35	1,038
	Rate	14.6	12.2	17.5	15.7	-	16.2	14.8
All Others	Number	39	47	35	93	28	49	1,553
	Rate	16.7	24.8	23.1	23.6	21.0	25.3	23.0
Total Cancer Deaths	Number	379	316	232	642	187	329	10,863
	Rate	164.8	160.7	145.4	160.2	141.6	162.1	158.2

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Note: Rates are deaths per 100,000 residents, age-adjusted to the 1970 United States population. Rates for fewer than 20 deaths are omitted because they are subject to large random variation. See Technical Notes at the end of this report for the individual sites included in each major site group. "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49). In this table, the major site group "Other Gastrointestinal Tract" includes the site group "Mouth and Pharynx."

- 1998 age-adjusted cancer mortality rates for the 13 most populous counties ranged from 141 deaths per 100,000 population in Dane County to 174 deaths per 100,000 population in Milwaukee County. The statewide rate was 158 per 100,000.

**Table 17. Number of Cancer Deaths by Site Group, Age and Sex, Wisconsin, 1998**

PRIMARY SITE	AGE AND SEX														
				0-19		20-24		25-29		30-34		35-39		40-44	
	Total	Males	Females	M	F	M	F	M	F	M	F	M	F	M	F
Mouth & Pharynx	176	117	59	0	0	1	0	0	0	0	0	4	0	6	1
Stomach	218	133	85	0	0	0	0	0	1	0	1	2	2	6	0
Colorectal	1,128	559	569	0	0	0	0	0	0	3	1	1	3	4	2
Pancreas	576	290	286	0	0	0	0	0	0	0	1	2	1	3	2
Other Gastrointestinal Tract	657	402	255	1	0	0	0	1	0	1	0	3	1	5	3
Trachea, Bronchus & Lung	2,799	1,651	1,148	0	0	0	0	0	0	0	0	5	4	24	17
Other Respiratory	86	62	24	0	0	0	0	0	0	0	0	0	1	1	0
Bone & Connective Tissue	107	54	53	3	3	3	0	0	1	2	1	1	1	5	1
Melanoma of Skin	143	91	52	0	0	0	0	0	0	0	2	7	1	4	1
Breast	864	10	854	0	0	0	1	0	3	0	5	0	20	0	32
Cervix Uteri	59	0	59	0	0	0	0	0	2	0	3	0	5	0	7
Corpus Uteri	71	0	71	0	0	0	0	0	0	0	0	0	1	0	0
Other Female Genital	392	0	392	0	1	0	1	0	1	0	2	0	2	0	13
Prostate	751	751	0	0	0	0	0	1	0	0	0	0	0	0	0
Other Male Genital	10	10	0	0	0	1	0	0	0	0	0	1	0	4	0
Urinary Bladder	242	164	78	0	0	0	0	0	0	0	0	0	0	0	0
Kidney & Other Urinary	243	157	86	0	0	0	0	0	0	1	0	3	0	2	3
Eye, Brain & Other Nervous System	293	137	156	3	4	2	2	1	0	6	5	5	9	5	2
Lymph Nodes	571	294	277	2	2	1	1	3	5	5	0	10	5	10	4
Leukemia	467	249	218	8	4	3	3	1	2	3	3	2	5	6	6
All Others	1,010	516	494	5	2	0	0	0	0	2	3	4	7	5	9
Total Cancer Deaths	10,863	5,647	5,216	22	16	11	8	7	15	23	27	50	68	90	103

(Table continued on next page)

**Table 17. Number of Cancer Deaths by Site Group, Age and Sex, Wisconsin, 1998 (Continued)**

	AGE AND SEX																	
	45-49		50-54		55-59		60-64		65-69		70-74		75-79		80-84		85+	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Mouth & Pharynx	6	3	16	5	11	4	15	9	9	9	17	6	11	5	9	6	12	11
Stomach	4	2	5	3	10	1	7	3	15	9	21	18	26	9	22	14	15	22
Colorectal	11	10	25	8	43	19	48	32	83	62	91	66	81	108	82	100	87	158
Pancreas	7	7	14	14	27	15	37	23	36	23	57	45	43	42	32	43	32	70
Other Gastrointestinal Tract	22	6	30	5	23	9	42	17	49	30	68	48	70	39	55	44	32	53
Trachea, Bronchus & Lung	29	31	68	54	122	92	189	115	252	197	321	192	283	184	201	155	157	107
Other Respiratory	0	1	7	0	6	3	3	2	13	2	9	5	9	4	7	4	7	2
Bone & Connective Tissue	4	3	4	5	2	4	0	3	5	5	8	6	7	8	4	7	6	5
Melanoma of Skin	6	4	10	1	8	2	5	6	12	6	13	6	8	9	11	4	7	10
Breast	1	47	1	52	1	46	3	80	0	77	1	103	1	126	1	104	1	158
Cervix Uteri	0	4	0	11	0	0	0	9	0	5	0	3	0	1	0	2	0	7
Corpus Uteri	0	2	0	0	0	6	0	7	0	12	0	12	0	10	0	12	0	9
Other Female Genital	0	21	0	22	0	24	0	29	0	52	0	47	0	56	0	59	0	62
Prostate	0	0	6	0	16	0	23	0	66	0	94	0	146	0	179	0	220	0
Other Male Genital	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0
Urinary Bladder	2	1	4	1	6	1	10	3	19	4	24	10	29	11	31	22	39	25
Kidney & Other Urinary	9	3	12	3	8	5	14	6	16	11	30	17	21	11	22	9	19	18
Eye, Brain & Other Nervous System	12	9	21	13	13	14	17	17	17	15	15	29	8	11	7	14	5	12
Lymph Nodes	8	9	14	3	20	10	19	17	33	26	41	28	37	51	50	69	41	47
Leukemia	9	5	5	7	9	9	19	15	28	16	41	29	44	39	37	31	34	44
All Others	17	10	25	15	27	21	47	36	66	41	97	77	67	76	81	81	73	116
Total Cancer Deaths	148	178	267	222	353	285	498	429	719	602	948	747	892	800	831	780	788	936

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Note: Age groupings vary in this table; childhood cancers (0-19) are followed by 5-year groupings.  
 "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49).  
 See Technical Notes at the end of this report for the individual sites included in each site group.

- The distribution above shows that cancer deaths increase with age. Seventy-four percent of 1998 cancer deaths were among those aged 65 or older.
- The four most common cancers (lung, colorectal, breast and prostate) were responsible for over 50 percent of cancer deaths. Over three-fourths of deaths caused by these four cancers occurred in those aged 65 or older.

**Table 18. Number of Cancer Deaths by Race, Age and Sex, Wisconsin, 1998**

	AGE GROUP							TOTAL
	0 – 14	15 - 24	25 - 44	45 - 64	65 - 74	75 - 84	85 +	
MALES								
White	13	16	150	1,160	1,601	1,663	767	5,370
African American	1	2	13	88	57	46	18	225
Other	0	1	7	18	9	14	3	52
Total Males	14	19	170	1,266	1,667	1,723	788	5,647
FEMALES								
White	7	14	176	1,035	1,304	1,546	912	4,994
African American	1	2	30	64	36	24	20	177
Other	0	0	7	15	9	10	4	45
Total Females	8	16	213	1,114	1,349	1,580	936	5,216
Total Cancer Deaths	22	35	383	2,380	3,016	3,303	1,724	10,863

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services.

Note: "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Technical Notes on page 49).

- About half of cancer deaths among African American and "Other" race groups (both sexes) occurred before age 65. In contrast, among whites of both sexes, one-fourth of cancer deaths occurred before age 65.

**Table 19. Cancer Deaths by Average Number of Months Between Diagnosis and Death and Age at Diagnosis, Wisconsin, 1998**

PRIMARY SITE	AGE AT DIAGNOSIS IN YEARS							
	UNDER 65		65 - 74		75 - 84		85 AND OVER	
	DEATHS	MONTHS	DEATHS	MONTHS	DEATHS	MONTHS	DEATHS	MONTHS
Mouth & Pharynx	106	40.4	61	40.0	36	33.8	16	-
Stomach	62	17.0	74	22.6	68	11.6	31	8.9
Colorectal	265	45.4	325	41.8	312	29.0	132	19.6
Pancreas	134	8.7	119	8.9	111	6.3	57	3.5
Other Gastrointestinal Tract	162	16.2	158	10.4	146	8.7	45	6.6
Trachea, Bronchus & Lung	731	18.1	787	14.6	550	11.4	130	7.1
Other Respiratory	64	63.9	49	43.9	24	13.8	13	-
Bone & Connective Tissue	40	45.8	16	-	19	-	3	-
Melanoma of Skin	61	54.6	30	35.8	14	-	7	-
Breast	391	74.2	211	64.1	161	53.0	55	28.0
Cervix Uteri	48	61.8	9	-	4	-	3	-
Corpus Uteri	45	44.7	43	39.8	32	36.9	7	-
Other Female Genital	123	43.9	75	38.3	69	28.4	30	12.8
Prostate	118	68.8	291	71.0	275	58.8	89	37.3
Other Male Genital	6	-	3	-	2	-	1	-
Urinary Bladder	56	68.4	75	61.2	89	35.3	35	16.3
Kidney & Other Urinary	80	43.1	74	38.2	59	18.3	19	-
Eye, Brain & Other Nervous System	158	29.7	74	11.7	40	13.7	10	-
Lymph Nodes	125	54.0	105	49.7	95	24.7	40	9.4
Leukemia	172	43.3	167	29.7	139	23.1	52	17.9
All Others	115	24.8	114	16.0	117	11.0	59	5.5
Total	3,062	39.4	2,860	33.2	2,362	25.6	834	15.1

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: This table includes cancer deaths (where cancer was listed as the underlying cause of death on the death certificate) that occurred among Wisconsin residents in 1998 and matched a reported cancer diagnosis filed with the Wisconsin Cancer Reporting System since 1978. *Each tumor is counted separately for persons with multiple tumors.* See Technical Notes on page 51 for the criteria used to determine a match between the incidence and death reports. Average months-to-death based on fewer than 20 deaths per age group are omitted because of potential large random fluctuations. See Technical Notes at the end of this report for the individual sites included in each major site group.

- The average number of months between diagnosis and death decreased as age at diagnosis increased: 39 months for cases diagnosed before age 65, to 15 months for cases diagnosed at ages 85 and older.

**Table 20. Cancer Deaths by Average Number of Months Between Diagnosis and Death and Stage of Disease at Diagnosis, Wisconsin, 1998**

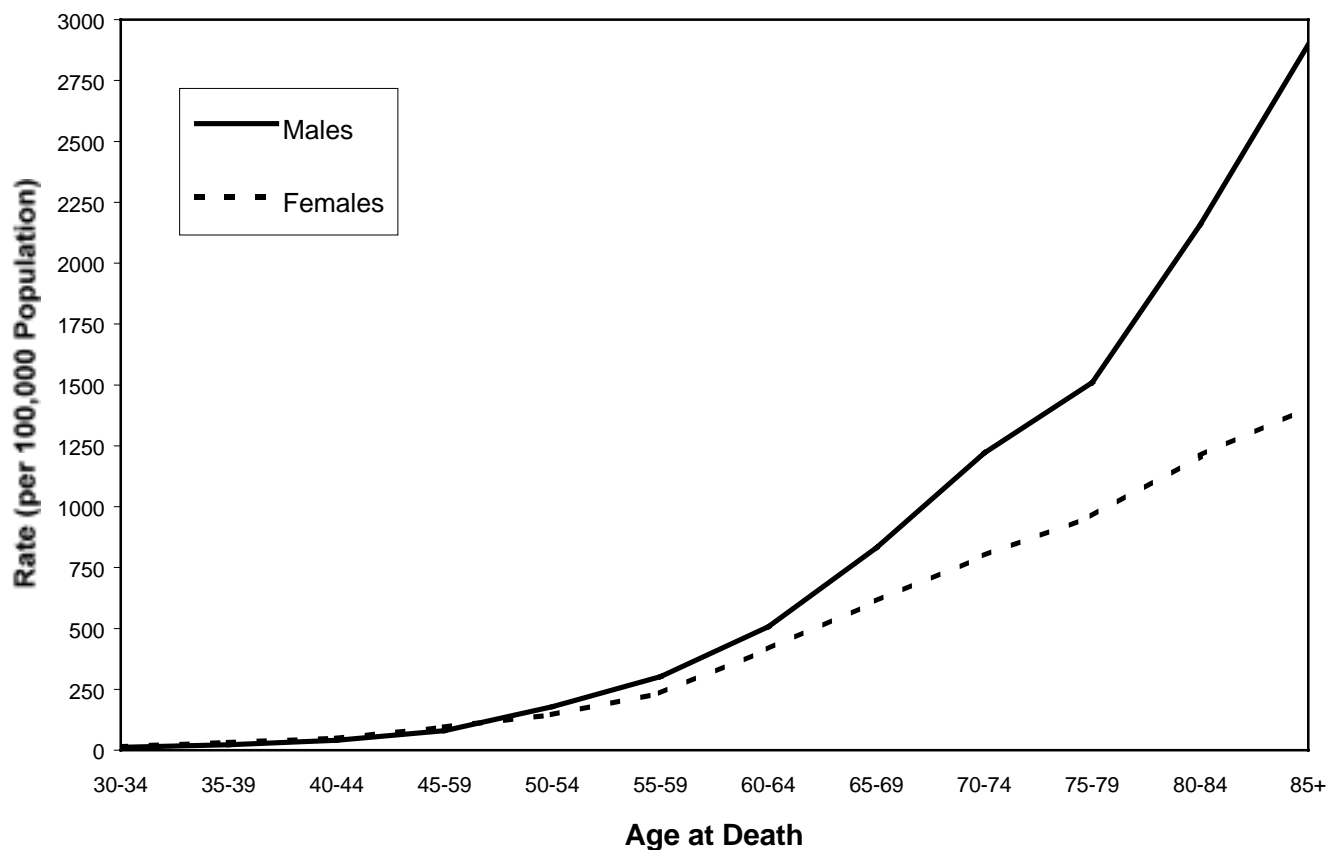
PRIMARY SITE	STAGE OF DISEASE							
	IN SITU & LOCAL		REGIONAL		DISTANT		NOT STATED	
	DEATHS	MONTHS	DEATHS	MONTHS	DEATHS	MONTHS	DEATHS	MONTHS
Mouth & Pharynx	79	53.2	107	22.4	18	-	15	-
Stomach	47	26.1	88	16.8	78	9.0	22	17.5
Colorectal	204	45.3	406	44.6	329	25.8	95	17.2
Pancreas	59	11.0	124	8.9	199	5.6	39	6.5
Other Gastrointestinal Tract	141	14.7	146	12.1	158	8.3	66	10.5
Trachea, Bronchus & Lung	364	28.2	647	17.3	1,032	7.4	155	18.7
Other Respiratory	69	71.3	48	28.5	17	-	16	-
Bone & Connective Tissue	27	48.4	14	-	19	-	18	-
Melanoma of Skin	70	55.0	16	-	16	-	10	-
Breast	295	80.8	321	65.2	141	25.1	61	70.7
Cervix Uteri	23	96.0	23	41.5	13	-	5	-
Corpus Uteri	56	59.8	38	28.2	28	10.4	5	-
Other Female Genital	47	59.7	75	37.5	154	26.5	21	43.4
Prostate	379	73.4	125	69.2	183	33.5	86	65.7
Other Male Genital	6	-	3	-	2	-	1	-
Urinary Bladder	163	57.6	53	34.7	26	7.5	13	-
Kidney & Other Urinary	62	62.5	49	44.3	104	10.9	17	-
Eye, Brain & Other Nervous System	195	21.0	42	16.9	16	-	29	26.6
Lymph Nodes	53	45.9	68	32.7	165	34.0	79	55.9
Leukemia	0	-	0	-	530	31.2	0	-
All Others	27	46.2	31	40.9	172	10.3	175	11.4
Total	2,366	51.5	2,424	32.5	3,400	16.9	928	33.4

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: This table includes those cancer deaths (where cancer was listed as the underlying cause of death on the death certificate) that occurred among Wisconsin residents in 1998 and matched a reported cancer diagnosis filed with the Wisconsin Cancer Reporting System since 1978. *Each tumor is counted separately for persons with multiple tumors.* See Technical Notes on page 51 for the criteria used to determine a match between incidence and death reports. Average months-to-death based on fewer than 20 deaths are omitted because of potential large random fluctuations. See Technical Notes at the end of this report for the individual sites included in each major site group.

- Among 1998 cancer deaths, the average survival time was three times as long when the cancer was reported as localized at the time of diagnosis as when the cancer was reported as having spread to distant sites. The average number of months from time of diagnosis to death was 52 months for cancers diagnosed at a local stage and 17 months for cancers diagnosed at a distant stage.

**Figure 4. Age-Specific Cancer Mortality Rates, by Sex, Wisconsin, 1998**

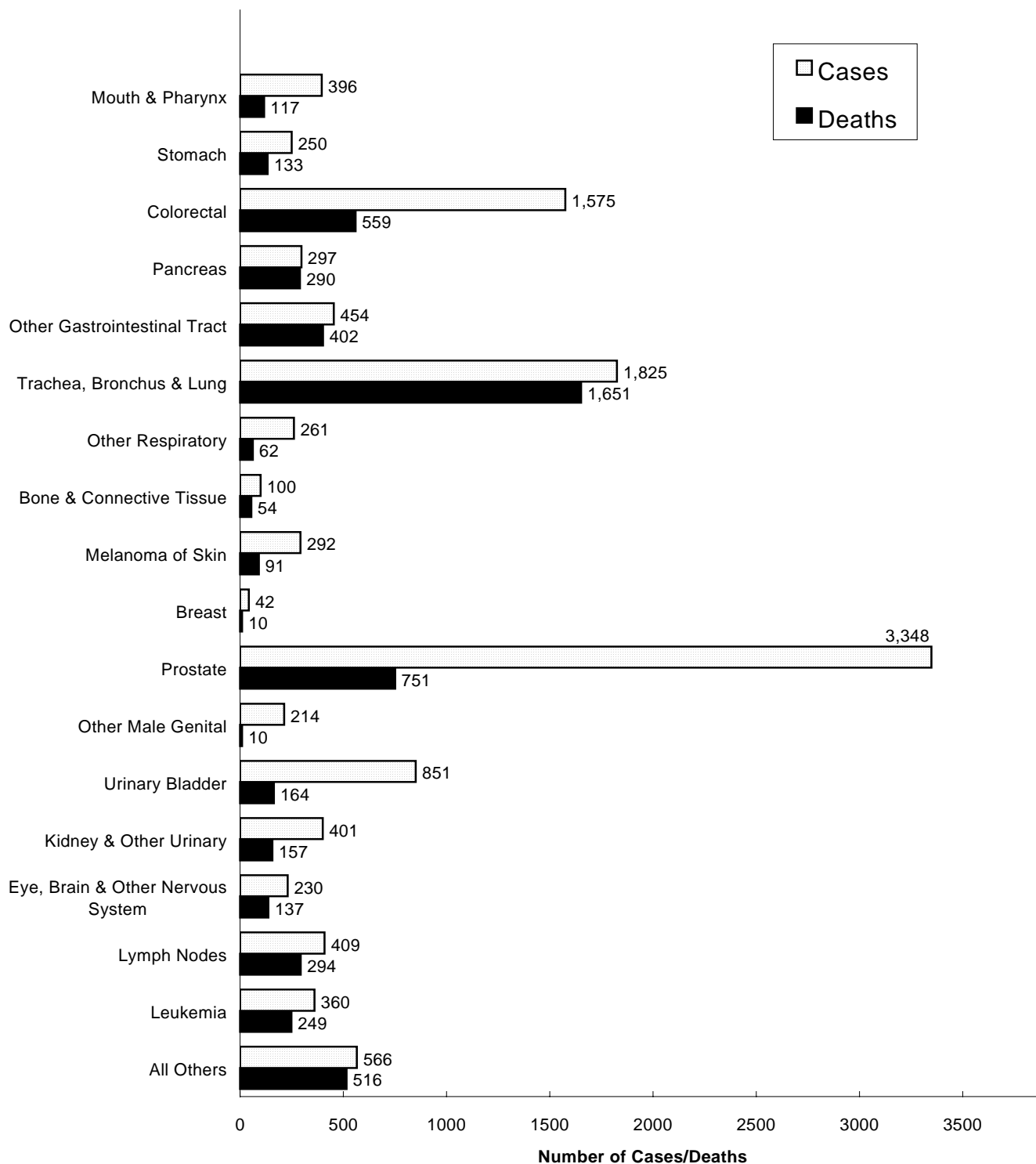


Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

- Cancer mortality rates rise steadily with age for both males and females. After age 50, the male mortality rate is higher than the female mortality rate; the difference increases sharply with age.

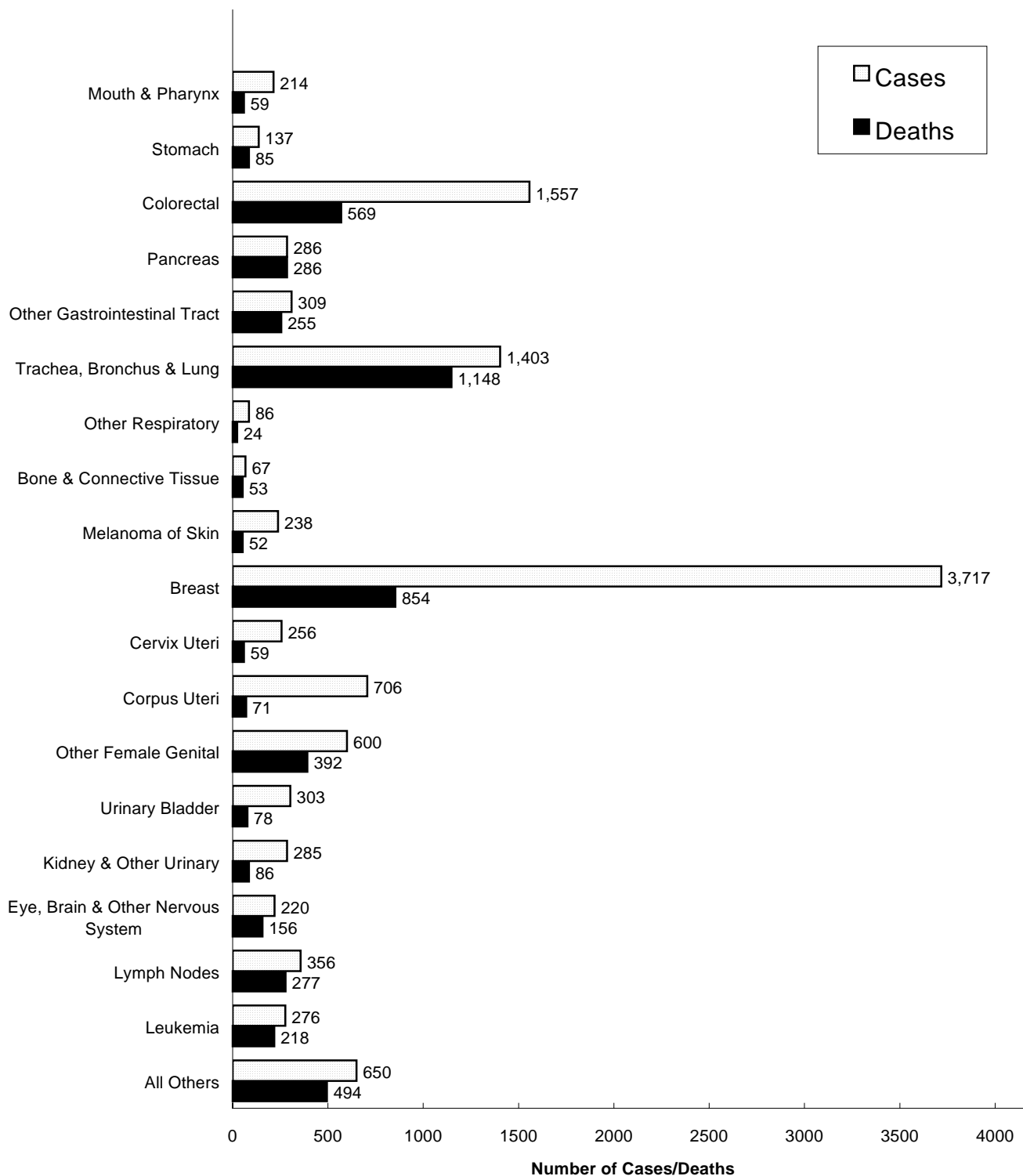


**Figure 5. Number of *Invasive* Cancer Cases and Deaths by Site Group:  
Males, Wisconsin, 1998**



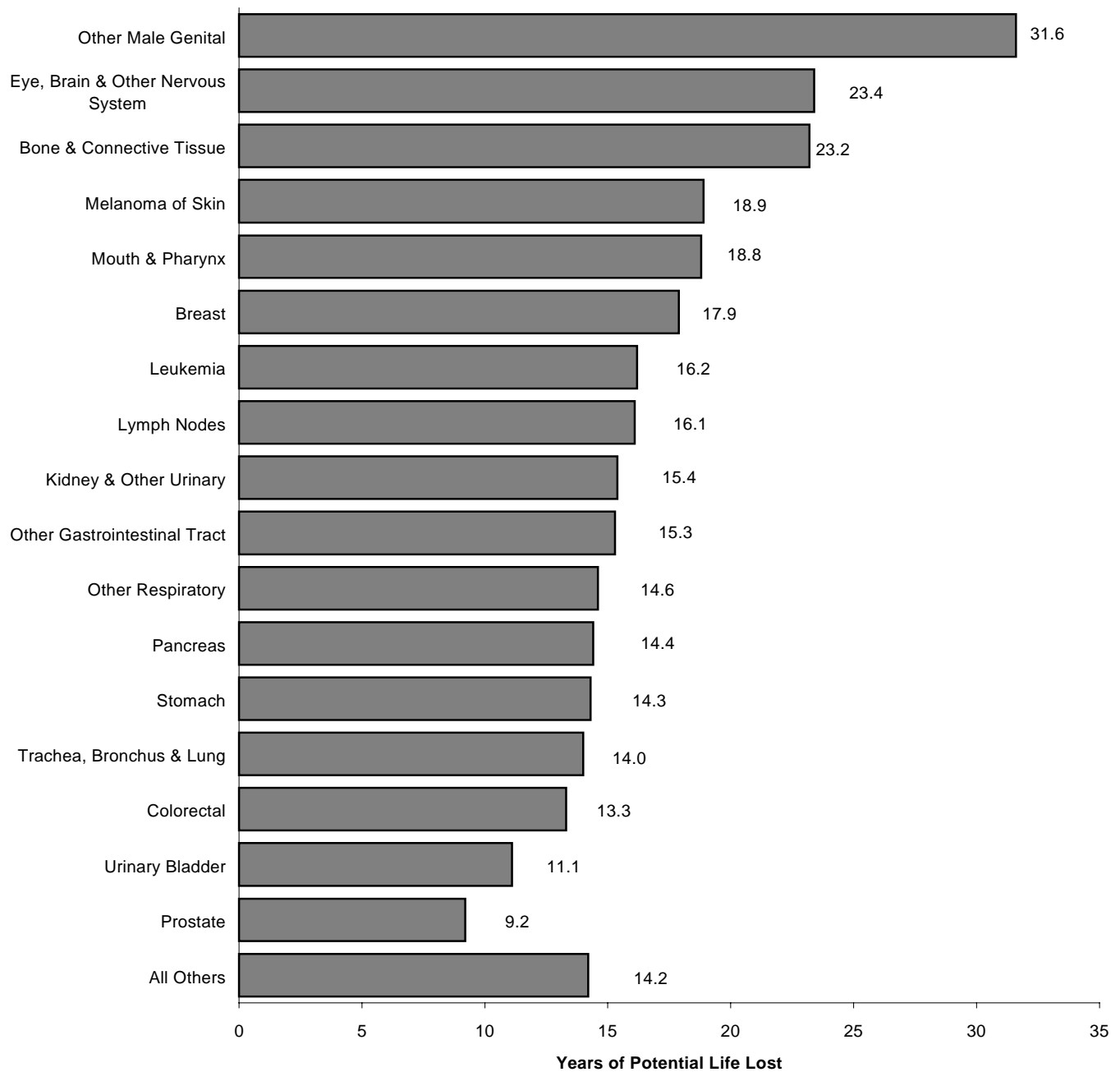
Source: Wisconsin Cancer Reporting System and the 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services. See Technical Notes on page 53 for incidence to mortality comparison information.

**Figure 6. Number of *Invasive* Cancer Cases and Deaths by Site Group:  
Females, Wisconsin, 1998**



Source: Wisconsin Cancer Reporting System and the 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services. See Technical Notes on page 53 for incidence to mortality comparison information.

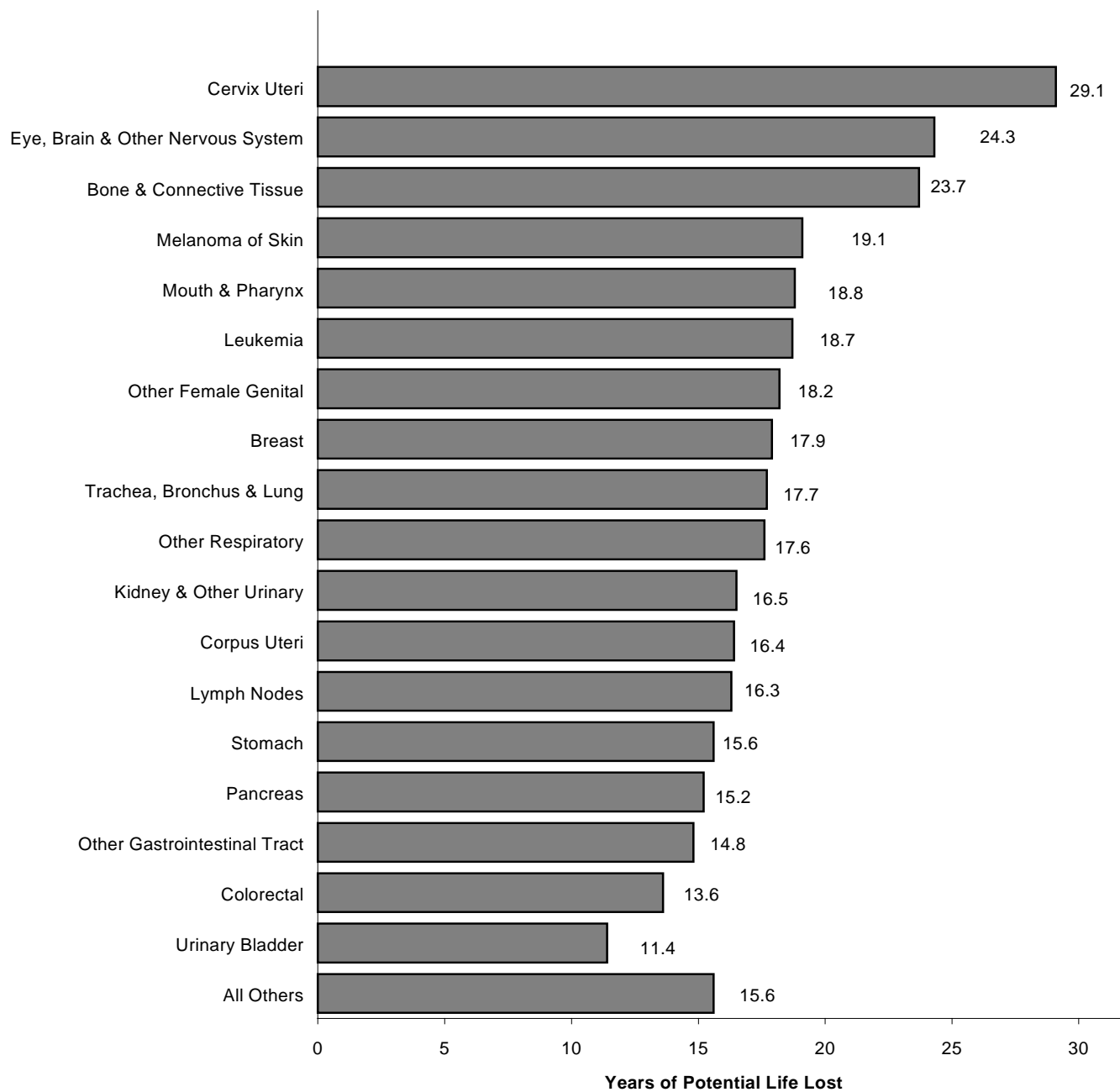
**Figure 7. Average Years of Potential Life Lost Due to Cancer Mortality by Site Group: Males, Wisconsin, 1998**



Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Note: See pages 51 and 53 for information on calculating the average years of potential life lost.

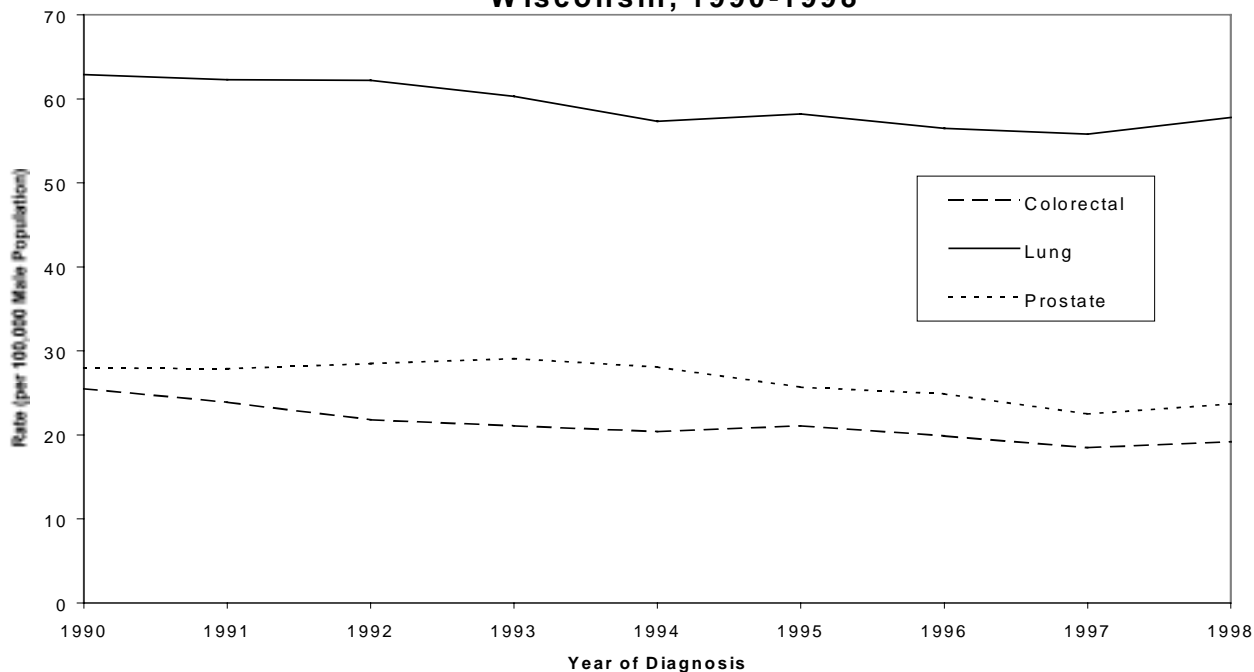
**Figure 8. Average Years of Potential Life Lost Due to Cancer Mortality by Site Group:  
Females, Wisconsin, 1998**



Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

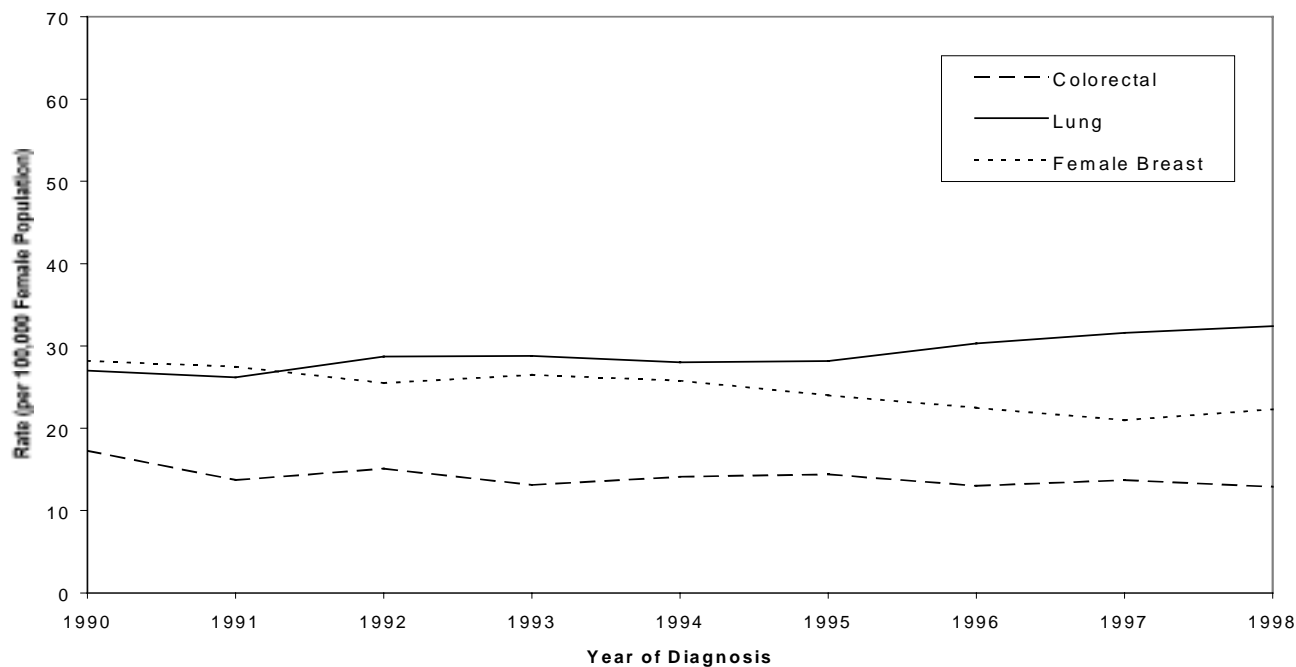
Note: See pages 51 and 53 for information on calculating the average years of potential life lost.

**Figure 9. Age-Adjusted Male Mortality Rates for Selected Cancers, Wisconsin, 1990-1998**



Source: Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

**Figure 10. Age-Adjusted Female Mortality Rates for Selected Cancers, Wisconsin, 1990-1998**



Source: Wisconsin resident death files, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

## Technical Notes

### The Cancer Reporting Statute (s. 255.04, Wisconsin Statutes)

- (1) Any hospital, as defined under s. 50.33(2), Wis. Stats., any physician and any laboratory certified under 42 USC 263a shall report information concerning any person diagnosed as having cancer or a precancerous condition to the department as prescribed by the department under sub. (2).
- (2) The department shall prescribe:
  - (a) The form on which the report under sub. (1) shall be submitted.
  - (b) The time schedule under which the report under sub. (1) shall be submitted.
  - (c) The types of cancer and precancerous conditions to be reported under sub. (1).
- (3) Any information reported to the department under sub. (1) or (5) which could identify any individual who is the subject of the report or the physician submitting the report shall be confidential and may not be disclosed by the department except to the following:
  - (a) A central tumor registry in another state if the individual who is the subject of the information resides in the other state.
  - (b) A national tumor registry recognized by the department.
- (4) The report of information under sub. (1) may not be construed as a violation of any person's responsibility for maintaining the confidentiality of patient health care records, as defined under s. 146.81(4).
- (5) The department may, to the extent feasible, collect information related to the occupation of cancer patients in order to fulfill the purpose of s. 250.04 (3)(b)4.

### Administrative Rules: Hospital Cancer Reporting (HSS 124.05 (h))

Every hospital shall report to the department all malignant neoplasms that are diagnosed by the hospital and all malignant neoplasms diagnosed elsewhere if the individual is subsequently admitted to the hospital. The report of each malignant neoplasm shall be made on a form prescribed or approved by the department and shall be submitted to the department within 6 months after the diagnosis is made or within 6 months after the individual's first admission to the hospital if the neoplasm is diagnosed elsewhere, as appropriate. In this paragraph, "malignant neoplasm" means an *in situ* or invasive tumor of the human body, but does not include a squamous cell carcinoma or basal cell carcinoma arising in the skin.

(See page 48 for more information regarding WCRS record confidentiality protection measures.)

## **Neoplasm Record/Report: Required Data for 1998 Diagnoses**

### ***Patient Demographics***

Last Name	Zip Code
First Name	County of Residence
Middle Name	Race
Maiden Name	Ethnicity
Sex	Occupation/Industry (text)
Street Address	Date of Birth
City	Marital Status
State	Social Security Number

### ***Administrative Fields***

Medical Record Number	Facility Referred From
Tumor Registry Accession Number (if applicable)	Facility Referred To
CRS Facility Code	Class of Case
Follow-up Physician Number	

### ***Tumor Characteristics***

Sequence Number	Cell Type
Date of First Contact	Grade
Date of Discharge	Tumor Size
Date of Diagnosis	Metastatic Sites (to date)
Primary Site/Subsite	Stage of Disease (at diagnosis)
Laterality	Diagnostic Confirmation

### ***Treatment Fields***

Cancer Directed Treatment  
Non-Definitive Treatment  
Treatment Date

Note: The above data are required on each case submitted to the Cancer Reporting System. Data can be submitted by filling out the Neoplasm/Record report form provided by WCRS or by submitting electronic data using a WCRS-approved record layout format.

## **Cancer Reporting System Operating Procedures**

**Data Collection.** The Wisconsin Cancer Reporting System receives hospital information from medical records departments or tumor registries. Each records department or registry has two major responsibilities in the flow of information. The first is case finding. All of the hospital's newly diagnosed and/or admitted cancer cases need to be identified. As part of this identification, medical records as well as radiology, pathology, outpatient clinic and autopsy reports need to be examined to assure complete reporting. The second responsibility of the registry or records department is to report the cases identified from one or more of the above-mentioned processes to WCRS. Reporting is done either by completing the one-page Neoplasm Report Form, or by submitting electronic diskettes using a pre-approved record layout.

Physicians and freestanding clinics report (1) all cancer cases they treat, and (2) those cases they diagnose if they are not referred to a Wisconsin hospital for treatment within two months of the diagnosis date. There were 1,615 clinic-only reported cases in 1998, just over six percent of the total cases reported for that year.

Reports for Wisconsin residents receiving care in Alaska, Arkansas, California, Colorado, Florida, Illinois, Indiana, Iowa, Kentucky, Massachusetts, Michigan, Mississippi, Missouri, Montana, Texas, Washington, West Virginia and Wyoming are reported to WCRS by the central registries for those states. Minnesota hospitals with substantial numbers of Wisconsin resident cancer patients report Wisconsin cases directly to WCRS. Data supplied by Minnesota facilities and reports from other out-of-state registries accounted for one percent of the cases in this report (272 cases).

Finally, WCRS matches its records to the Wisconsin resident annual death file to add mortality information for persons who have previously been reported to WCRS. From that match, WCRS identifies cases where cancer is indicated on the death certificate but no report exists in the registry. For those cases, WCRS queries the medical source listed on the death certificate (the hospital, out-of-state registry, physician or coroner who certified the death) to provide information about the cancer case that was not previously reported to WCRS. **Wisconsin Cancer Incidence and Mortality, 1998** includes 349 cases originally diagnosed during 1998 that were reported as a direct result of the death certificate confirmation process.

**Supplemental Data Sources.** Mortality data were obtained from the 1998 Wisconsin resident death file. The mortality tables are based on deaths that occurred in 1998 for which the underlying cause of death was a reportable cancer. Certificates for out-of-state deaths of Wisconsin residents were provided by the states where the deaths occurred. Months between diagnosis and death were calculated from the date of death shown on the death certificate and the date of diagnosis from the case reports.

Wisconsin population estimates were produced by the Bureau of Health Information. BHI compiles its estimates by reconciling those from the Wisconsin Department of Administration, Demographic Services, against the mid-year age and sex proportional distribution from the Population Estimates Branch of the U.S. Bureau of the Census to produce mid-year, county-level and state-level age-by-sex estimates.



SEER national figures are based on data collected from cancer registries covering approximately 14 percent of the U.S. population, selected by NCI based on high quality data and their epidemiologically significant population. The NAACCR monograph of national cancer data is compiled from data collected by 28 U.S. central cancer registries (23 states, including Wisconsin, and 5 metropolitan areas). To be included in the NAACCR combined U.S. rate, registries must submit five years of data that pass criteria for reporting completeness, non-duplication of records, and internal consistency among data items.

**Reportable Cases.** All primary malignant neoplasms are reportable except basal cell and squamous cell carcinoma of the skin. Benign tumors, premalignant conditions and diseases secondary to the neoplastic process are not reportable.

The 1998 incidence tables are based on Wisconsin resident cases of reportable cancer first diagnosed during 1998 and reported to the Cancer Reporting System by July 15, 2000.

**Record Confidentiality.** In addition to protecting data release as required by the Cancer Reporting Statute (see page 45), once data are received, WCRS follows strict guidelines to maintain the confidentiality of patient records, in-house. Procedures include, but are not limited to, securely storing all records on the Department computer network; limiting computer access for confidential data items to only the WCRS staff; shielding computer screens from non-WCRS staff; and locking up all paper records, diskettes and paper or electronic output that include confidential data items. More detailed information regarding confidentiality may be obtained by contacting WCRS.

**Quality Assurance.** WCRS staff routinely edit cancer reports for completeness and logical consistency, and make periodic checks for consistency among multiple reports received for the same case. If an inconsistency is found, queries are sent to the reporting agent and corrections are made in the records. If more than one report is on file for the same person or tumor, the records are matched using national case-merging protocol. This protocol allows for the most accurate and complete information on the description of the tumor cell type, extent of disease at diagnosis, method of diagnostic confirmation, types of definitive therapy, race of patient, etc.

**Completeness and Timeliness of Reports.** The 1998 data are estimated to be 95 percent complete. Statewide training sessions offered by WCRS to the reporting facilities focus on increasing complete casefinding, timeliness, and compliance with the cancer reporting statute and administrative rule.

The North American Association of Central Cancer Registries (NAACCR) recently awarded WCRS its Silver Standard for 1997 data quality, completeness and timeliness. This was the third year that WCRS received national recognition from NAACCR for achieving high standards in data preparation. WCRS received the Gold Standard for 1995 and 1996 data. WCRS will submit 1998 data to NAACCR following publication of this report.

**Multiple Tumor Determination.** When apparent multiple neoplasms of the same primary site in one patient exist simultaneously or over a period of time, WCRS applies the following rules to determine whether more than one independent primary tumor exists:

- 1) A single lesion with multiple histologic types is considered a single primary.

- 2) An independent primary cancer of the same histologic type as one diagnosed in the same site more than one year earlier is considered a separate primary cancer, unless the physician states that it is a recurrence of the earlier cancer.
- 3) Simultaneous multiple lesions of the same histologic type within the same primary site are considered a single primary cancer.
- 4) Multiple lesions of different histologic types within a single site, whether occurring simultaneously or at different times, are considered separate primaries.
- 5) Each side of a paired organ is considered a separate site with the following three exceptions: simultaneous ovarian tumors, simultaneous Wilm's tumors (of the kidney) and simultaneous retinoblastomas (of the eye). These exceptions are coded as a tumor of the paired organ with bilateral presentation (involvement of the tumor in both sides of a paired organ). Aside from the above exceptions, lesions in both sides of a paired organ are considered separate tumors whether occurring simultaneously or at different times unless a physician determines a) one side is metastatic from the other or b) the tumor is presenting bilaterally.

Incident tumors are classified according to the **International Classification of Diseases for Oncology, Second Edition** (ICD-O2). For specific ICD-O2 codes used in the site groups and major site groups, see "Coding of Reported Cases: ICD-O2 Site Codes" and "Coding of Reported Cases: ICD-O Cell Type Codes" on pages 55-58. Tumor codes in the mortality section are classified using the **International Classification of Diseases, 1975 Revision** (ICD-9). Throughout this report, site groupings are listed in ICD-9 sequence. Specific ICD-9 codes for the respective site groups are listed on page 59.

Please note that all tables in this year's report (except Tables 1A and 1B) combine colon, rectum and recto-sigmoid cancers into one site group: colorectal. In previous reports, this grouping was used only in tables with the *major* site groupings. This change will make Wisconsin data more comparable to national data and data from other states.

While the ICD-O2 is used to assign both a primary site code *and* a cell type code to every tumor, ICD-9 codes reflect either site *or* cell type. The ICD-9 has two skin tumor classifications, one for melanomas of the skin and one for all other skin tumors combined. Basal cell and squamous cell carcinoma of the skin, which are not reportable to the Cancer Reporting System, make up the majority of these "other" skin tumors. Since the ICD-9 classification does not allow for a distinction between basal cell and squamous cell skin cancers on one hand, and other nonmelanoma skin cancers on the other, only melanomas are included in the mortality section. Reportable nonmelanoma skin cancers are included in the incidence tables in the site group "All Others." In 1998, 67 reportable cases of nonmelanoma skin cancer were diagnosed.

## **Definitions**

**Patient Residence.** Tables 5 and 6 and Supplemental Tables A and B are based on patient residence at the time of diagnosis. The Cancer Reporting System collects postal zip code and county of residence for cancer cases rather than minor civil division of residence (village, town or city). For

Supplemental Table B, zip codes and county boundaries are used to approximate city of residence. Information about the boundaries used to define city of residence is available upon request. Tables 15 and 16 and Supplemental Table C are based on the deceased's county of residence at the time of death.

**Patient Race.** Tables 3, 4, 8, 13, 14 and 18 present cancer information by race. The race categories used in this report are 1) white, 2) African American 3) other and 4) unknown. The "other" race category combines Native American/Alaskan Native and Asian/Pacific Islander. The specific race categories are as follows:

White	
African American	
"Other"	
American Indian, Aleutian, or Eskimo	Guamanian, NOS
Chinese	Polynesian, NOS
Japanese	Tahitian
Filipino	Samoan
Hawaiian	Tongan
Korean	Melanesian, NOS
Asian Indian, Pakistani	Fiji Islander
Vietnamese	New Guinean
Hmong	Other Asian, inc. Asian, NOS
Kampuchean	and Oriental, NOS
Thai	Pacific Islander, NOS
Micronesian, NOS	Other
Chamorroan	
Unknown	

Note: Hispanic ethnicity is not provided as a separate category in this report as the number of annual cases for this ethnic group is too small. Special requests for combined years of data are available by contacting WCRS.

**Stage of Disease at Diagnosis.** The stage of disease at diagnosis refers to how far a cancer had spread from the site of origin when it was diagnosed. WCRS cancer data are coded according to summary guidelines of NCI's Surveillance Epidemiology and End Results (SEER) program. The following staging definitions are used in this report:

<i>In Situ</i>	A small cancer confined to the cells in which the cancer began, that does not invade or penetrate the surrounding tissue.
<i>Localized</i>	An invasive tumor (penetrated the surrounding tissue) that is confined to the organ of origin.
<i>Regional</i>	A tumor that has spread beyond the organ of origin to adjacent organs or tissue by direct extension (penetrated directly into surrounding organs or tissues), or through the regional lymph nodes (through the lymphatic system), or both, but appears to have spread no further.

*Distant* A tumor that has spread to parts of the body remote from the primary organ, or a systemic malignancy (such as cancers in the blood, bone marrow, or lymph system).

*Unknown* Insufficient information available to determine the stage of disease at diagnosis.

### **Type of Diagnostic Confirmation**

The type of diagnostic confirmation reported indicates the method used to provide the most accurate evidence for the diagnosis of cancer. Microscopic confirmation is required to identify cell type, the most sensitive measure of the *type* of cancer. The following definitions and examples are used in coding diagnostic confirmation.

*Positive Histology* - Microscopic diagnosis based upon specimen from a biopsy or frozen section of tissue.

*Positive Cytology or Blood Confirmation* - Diagnosis based upon microscopic examination of cells (as opposed to tissue).

*Positive Microscopic Confirmation, Not Otherwise Specified* - Microscopic diagnosis with the method unspecified.

*Laboratory Test/Marker Study* - Clinical diagnosis based on a laboratory test or a tumor marker study.

*Surgery Observation Without Microscopic Confirmation* - Diagnosis made on the basis of visualization or palpation during surgery.

*Imaging* - Includes chest x-rays, bone scans, mammograms, MRIs, upper GI series, etc.

*Other Clinical Methods* - Diagnosis based on medical history, physical examination and other clinical methods not mentioned above.

*Autopsy* - Reported when the cancer is first discovered or confirmed upon autopsy. An autopsy may involve microscopic examination of tissues or cells.

***Incidence/Death Case Matching (Tables 19 & 20).*** Tables 19 and 20 are derived from incidence records in the WCRS registry (with tumors diagnosed since 1978) matched against the 1998 Wisconsin resident death file and updated with information from the death certificate. The most important matching criteria are full name, date of birth and social security number. If any of the matched persons had more than one primary tumor reported in the WCRS registry (a breast cancer and a cervical cancer, for example), then each tumor is counted as a separate case in the tables.

***Years of Life Lost.*** For an individual cancer patient who dies as a result of cancer, the “years of potential life lost” is the difference between that individual's age at death and the expected age at death for a person of the same sex having reached the same age. The average years of life lost by

sex and primary site group is the sum, respectively, of years lost by all individuals of each sex who died due to cancer of each primary site, divided by the actual number of deaths for that sex and primary site. The expected age at death for **Cancer Incidence and Mortality, 1998** was calculated from statewide Wisconsin life tables for 1993-95 (prepared by the Bureau of Health Information).

**Rates.** Following national standards set by NCI and CDC, all rates in this report are age-adjusted to the 1970 United States standard population age distribution (see page 62). This standard population estimates the number of persons in each five year age group if the total U.S. population was 1,000,000 persons. It is used for weighting rates. Age-adjusted rates take into account the diverse age distributions between populations. Valid comparisons between age-adjusted rates can be made, provided the same standard population and age groups have been used in the calculation of the rates. The age-adjusted rates for this report were produced using the direct method of adjustment. With this method, the population is first divided into reasonably homogeneous age groups. The age-specific rate is calculated for each age range, and each age-specific rate is weighted by multiplying it by the proportion of the 1970 U.S. standard million population in the respective age group. The age-adjusted rate is the sum of the weighted age-specific rates.

The age-adjusted rates in **Cancer Incidence and Mortality, 1998** were calculated using five-year age intervals. Age intervals used to calculate age-adjusted rates for past annual reports have varied, and documentation for each publication should be consulted before comparing published rates.

Though crude rates are not reported in any of the **Cancer Incidence and Mortality, 1998** tables, they can be calculated from the population tables on pages 60 and 61. The reliability of crude rates can be measured by comparing the standard error for each rate. The standard error is estimated by dividing the crude rate by the square root of the number of cases/deaths upon which the rate was based. This gives the standard error for a rate per 100,000 population. The 95% confidence interval can be determined by multiplying the standard error times 1.96.

Age-specific rates can also be calculated using the same tables. The age-specific rates in Figures 1 and 4 are the number of events per 100,000 persons in each sex and five-year age range.

### Caveats/Limitations

**Geographic Boundaries.** Two factors affect interpretation of geographic location tabulations.

First, many counties have a very small number of new cancer diagnoses or deaths in a year, resulting in site-specific frequencies in the single digits. Such small numbers may easily double or triple (or decrease by equivalent amounts) from year to year. When groups of related counties or primary sites are combined, the frequencies and rates become more stable. Even at the statewide level, however, some random fluctuation is expected.

Second, reporting completeness and/or timeliness may vary by region. The largest reporting variations relate to out-of-state diagnosis and treatment of patients who live in the sparsely populated counties along the Wisconsin/Minnesota border and are seen by Minnesota hospitals. The inclusion of reports from nearby Minnesota hospitals, starting in 1992, reduced this problem. While only one percent of *all* 1998 Wisconsin resident cases were reported by Minnesota facilities, the effect in the border counties may be quite large. The contribution of Minnesota reports to 1998 county incidence is as follows: Douglas (92%), Sawyer (47%), Bayfield (36%), Washburn (30%), Buffalo (26%),

Ashland (24%), Burnett (20%), Pierce (19%), Iron (10%), Polk (5%), Pepin (5%), St. Croix (4%) and Barron (2%). Also, a lag in reporting by an individual hospital can result in local under-reporting of cases, but the effect on regional totals is usually minimal.

**Patient Race.** Reporting of race is nearly complete on death certificates. Historically, differences among facilities in recording patient race (information not required in medical chart, entered by proxy, patient self-reporting) have led to a number of ambiguous or unknown race codes. As training and expanded codes have been introduced in recent years, the number of incidence cases reported with unknown race has decreased more than two-fold, from 518 in 1994 (over 2 percent of total reports) to 200 in 1998 (less than 1 percent of total reports).

**Incidence to Mortality Comparison.** Figures 5 and 6 list the number of invasive cancer cases and deaths recorded for calendar year 1998, by site group. They are helpful when calculating incidence to mortality ratios (I/M) but they are not a direct indicator of survival rates. The deaths that occurred in 1998 were not always cases also diagnosed in 1998 (diagnosis could have been at any time prior to 1998). For example, on page 41, Figure 6 lists 214 cases and 59 deaths for the site group “Mouth and Pharynx.” This should *not* be interpreted as “214 cases were diagnosed in 1998 and of those 59 died within that same year.”

**Years of Life Lost.** Life tables used to calculate potential average years of life lost for past **Cancer in Wisconsin** reports have varied, and documentation for each publication should be consulted before comparing data between years. Sites with a smaller number of cases or deaths can have larger fluctuations in the average years of life lost due to extreme values.

**In Situ Cervical Cancer Data.** Comparison of *in situ* cervical cancer data over a wide range of years may be affected by changes in cytologic and pathologic classifications of pre-invasive cervical cancers. In particular, classification systems formerly distinguished between noninvasive malignant lesions and noninvasive pre-malignant or benign lesions; more recent classification systems combine these categories. Data are affected by changes in terminology among cytologists and pathologists. In addition, many local and national cancer programs no longer require reporting of *in situ* cervical cancers. Even though it was still technically reportable in Wisconsin (for 1998 cases), the elimination of this reporting requirement in other programs has resulted in a parallel reduction in the number of these cases reported to WCRS. These changes have not affected reporting of *in situ* cancers of other sites.

**Case coverage.** The number of 1998 cases reported to WCRS was lower than the number reported in 1997 (in recent years the caseload had been increasing annually). The reduced number of cases was particularly notable for prostate cancer. This decline is most likely attributable to several factors, both a real decline in prostate cancer cases and an artifact of reporting practices. As observed by other state and national registries, prostate cancer incidence has been declining since 1992.<sup>1 2 3</sup> The previous increase in incidence was due to the emergence of PSA (prostate-specific antigen) screening during the latter 1980s and early 1990s.<sup>3</sup> Prostate cancer incidence rates began increasing around 1986 and peaked in 1992 for both Wisconsin and the nation.

Reporting practices may also create artificial variation in incidence rates. The increase in diagnosis and treatment of prostate cancer in outpatient settings may result in delayed or reduced reporting from the more traditional reporting sources: hospitals. Also, facility-reporting completeness can

vary from year to year due to temporary reductions in facility reporting resources or changes in reporting practices. These factors may have resulted in less complete reporting for 1998.

<sup>1</sup>Kentucky Cancer Registry. 1997-1998 Cancer Incidence Report Online: [www.kcr.uky.edu/ar98/1998cir.html](http://www.kcr.uky.edu/ar98/1998cir.html)

<sup>2</sup>Doloeck TA, Shen T, Snodgrass JL. *Report on the Status of Cancer in Illinois: Incidence 1986-1997*. Epidemiologic Report Series 00:1 Springfield, IL: Illinois Department of Public Health, March 2000.

<sup>3</sup>Standford JL, Stephenson RA, Coyle LM, et al. *SEER Prostate Cancer Trends 1973-1995*. National Cancer Institute, NIH Publication No. 99-1495.

CODING OF REPORTED CASES  
ICD-O-2 Site Codes (1990 Code Version)

Page 1 of 3

PRIMARY SITE NAME	Major Site Group	Site Group	Individual Site
Lip .....			C00
Tongue .....			C01 - C02
Major Salivary Glands .....			C07 - C08
Gum .....			C03
Floor of Mouth .....			C04
Other & Unspecified Parts of Mouth .....			C05 - C06
Oropharynx .....			C09 - C10
Nasopharynx .....			C11
Hypopharynx .....			C12 - C13
Other Sites in Lip, Oral Cavity, & Pharynx .....			C14
Mouth and Pharynx .....			C00 - C14
Esophagus .....			C15
Stomach .....		C16.....	C16
Small Intestine .....			C17
Colon .....			C18
Rectum, Rectosigmoid Junction, & Anus .....			C19 - C21
Colorectal .....		C18 - C21 .....	C18-C21
Liver & Intrahepatic Bile Ducts .....			C22
Gallbladder & Extrahepatic Bile Ducts .....			C23 - C24
Pancreas .....		C25.....	C25
Retroperitoneum & Peritoneum .....			C48
Other Within Digestive Organs & Peritoneum .....			C26
Other Gastrointestinal Tract .....		C15, C17, C22 - C24 .....	C15, C17, C22 - C24
.....		C26, C48	
Other Gastrointestinal Tract .....		C15 - C17 .....	C15 - C17
.....		C22 - C26, C48	C22 - C26, C48
Nasal Cavities & Sinuses, Internal Ear .....			C30 - C31
Larynx .....			C32
Trachea, Bronchus, & Lung .....		C33 - C34 .....	C33 - C34
Pleura .....			C38*
Thymus, Heart, & Mediastinum .....			C37 - C38*
Other Respiratory & Intrathoracic Sites .....			C39
Other Respiratory ..		C30 - C32 .....	C30 - C32
.....		C37 - C39	C37 - C39
Respiratory .....		C30 - C39	C30 - C39

\*Pleura sites are coded C38.4; heart and mediastinum sites are identified by the other C38.x codes



CODING OF REPORTED CASES  
ICD-O-2 Site Codes (1990 Code Version)

Page 2 of 3

PRIMARY SITE NAME	Major Site Group	Site Group	Individual Site
Hematopoietic & Reticuloendothelial.....			C42
Systems, (except Leukemia*)			
Bone, Joints, & Articular Cartilage.....			C40 - C41
Connective, Subcutaneous, Other Soft Tissue.....			C49
Bone & Connective Tissue ....		C40 - C41	
.....		C49	
Melanoma of Skin .			Site code C44 if also
.....			Cell Type Code 872 - 879
Breast .....	C50	C50.....	C50
Uterus, NOS .....			C55
Cervix Uteri .....		C53.....	C53
Placenta .....			C58
Corpus Uteri .....		C54.....	C54
Ovary, Fallopian Tube, & Broad Ligament .....			C56 - C57**
Other & Unspecified Female Genital Organs .....			C51 - C52, C57**
Other Female Genital.....		C51 - C52	
.....		C55 - C58	
Female Genital .....		C51 - C58	
Prostate .....		C61.....	C61
Testis .....			C62
Penis & Other Male Genital Organs .....			C60, C63
Other Male Genital .....		C60, C62 - C63	
Male Genital .....		C60 - C63	
Urinary Bladder .....		C67.....	C67
Kidney & Other Urinary Organs.....		C64 - C66, C68 .....	C64 - C66, C68
Urinary Tract .....		C64 - C68	
Eye & Lacrimal Gland.....			C69
Brain .....			C71
Other & Unspecified Parts of Central Nervous System .....			C70, C72
Eye, Brain & Other Central Nervous System .....		C69 - C72	
Thyroid Gland.....			C73
Other Endocrine Glands .....			C74 - C75

\*Leukemias are initially determined by the cell type code (see next page), and then defaulted to site code C42.1

\*\*Broad ligament and ovary sites are coded C57.0 and C57.1, respectively; "other and unspecified female genital" sites are the remaining C57.x codes

CODING OF REPORTED CASES  
ICD-O-2 Site Codes (1990 Code Version)

Page 3 of 3

PRIMARY SITE NAME	Major Site Group	Site Group	Individual Site
Lymph Nodes .....		C77.....	C77, Except Cell Type Code 965 - 966
Hodgkin's Disease.. .....			Cell Type Code 965 - 966
Lymphoid Leukemia.....			Cell Type Code 982
Myeloid Leukemia. ....			Cell Type Code 986
Other Leukemia ..... ..			Cell Type Code 980, 981 983 - 985, 987 - 994
Leukemia .....			Cell Type Code 980 - 994
Leukemia & Lymph Nodes....			Cell Type Code 980 - 994 plus Site Code C77
Other & Ill-defined Sites (Includes Reportable Nonmelanoma Skin Sites)			C44, C47, C76
All Other (Includes Reportable Nonmelanoma Skin Sites, Endocrine, .....		C42, C44, C47	C73 - C76
Nonleukemic Hematopoietic & .....			C80
Reticuloendothelial Sites , Peripheral Autonomic Nerves and Ill-Defined and Unknown Sites)			
All Others (Includes Mouth & .....		C00 - C14	
Pharynx, Reportable Nonmelanoma .....		C40 - C44, C47	
Skin Sites, Endocrine,.....		C49, C69 - C76	
Nonleukemic Hematopoietic .....		C80	
& Reticuloendothelial Sites, Peripheral Autonomic Nerves, Eye, Brain and Central Nervous System Sites and Ill-Defined and Unknown Sites)			
Unknown Primary Site .....			C80

Note: Basal and squamous cell carcinoma of skin sites and nonmalignant neoplasms are not reportable. Extra-nodal lymphomas are coded to their respective primary sites rather than to lymph nodes.

CODING OF REPORTED CASES  
ICD-O Cell Type Codes (Encompasses 1976 and 1990 Code Versions)

CELL TYPE GROUP	CODE
Small Cell/Oat Cell Carcinoma .....	804
Squamous Cell Carcinoma.....	807
Transitional Cell Carcinoma.....	812
Papillary Transitional Cell Carcinoma.....	813
Papillary Adenocarcinoma.....	826
Clear, Renal & Granular Cell Adenocarcinoma.....	831-832
Cystadenocarcinoma.....	844-847
Mucinous Adenocarcinoma .....	848
Ductal Adenocarcinoma .....	850
Medullary Adenocarcinoma.....	851
Lobular Adenocarcinoma .....	852
Other Specified Adenocarcinoma .....	815-820, 823-825
	827-830, 833-838
	840-842, 855
Other Adenocarcinoma .....	849, 853, 854
Adenocarcinoma, NOS .....	814, 821, 822
Carcinoma, Not Otherwise Specified (NOS) .....	801-802
Sarcoma, NOS and Osteogenic Sarcoma .....	880, 918, 919
Astrocytoma, NOS.....	940
Glioblastoma Multiforme .....	944
Germ Cell Neoplasms .....	906-909
Hodgkin's Disease.....	965-966
Non-Hodgkin's Lymphoma.....	959-964, 967-971, 975
Lymphoid Leukemia.....	982
Myeloid Leukemia.....	986
Other Leukemia .....	980-981, 983-985
	987-994
Plasma Cell Tumors.....	973
Unknown Cell Type.....	800, 999
(Includes "No Microscopic Confirmation")	
All Others .....	803, 805, 808-811
	839, 843, 856-879
	881-905, 910-917
	922-939, 941-943
	945-958, 972, 974, 976

CODING OF DEATHS  
ICD-9 Cancer Codes

PRIMARY SITE NAME	Major Site Group	Site Group
Mouth and Pharynx .....	140 - 149	
Stomach .....	151	
Colorectal .....	153, 154	153, 154
Pancreas .....	157	
Other Gastro-intestinal Tract .....	150, 152, 155	
Other Gastro-intestinal Tract .....	156, 158, 159	
Other Gastro-intestinal Tract .....	150 - 152	
Other Gastro-intestinal Tract .....	155 - 159	
Trachea, Bronchus & Lung.....	162	
Other Respiratory .....	160 - 161	
Other Respiratory .....	163 - 165	
Respiratory.....	160 - 165	
Bone & Connective Tissue ....	170, 171	
Melanoma of Skin .....	172	
Breast .....	174 - 175	174 - 175
Cervix Uteri .....	180	
Body of Uterus.....	182	
Other Female Genital.....	179, 181	
Other Female Genital.....	183, 184	
Female Genital.....	179 - 184	
Prostate .....	185	
Other Male Genital .....	186 - 187	
Male Genital .....	185 - 187	
Urinary Bladder .....	188	
Kidney, Other, & Unspecified Urinary Organs.....	189	
Urinary Tract.....	188 - 189	
Eye, Brain & Other Nervous System .....	190 - 192	
Lymphoma.....	200 - 202	
Leukemia .....	204 - 208	
Lymphoma & Leukemia .....	200 - 202	
Lymphoma & Leukemia .....	204 - 208	
All Others .....	193 - 195, 199, 203	
All Others.....	140 - 149, 170 - 172	
All Others.....	190 - 195, 199, 203	

WISCONSIN POPULATION ESTIMATES BY 5-YEAR AGE GROUP AND SEX  
July 1, 1998

Age	Male	Female	Total
ALL AGES	2,582,290	2,672,890	5,255,180
Under 5	171,320	163,600	334,920
5-9	189,360	180,690	370,050
10-14	207,380	195,800	403,180
15-19	210,770	200,820	411,580
20-24	171,800	168,620	340,420
25-29	165,670	169,320	334,980
30-34	186,770	189,230	376,000
35-39	222,390	218,420	440,810
40-44	218,020	213,860	431,880
45-49	185,660	188,370	374,030
50-54	149,080	152,570	301,650
55-59	116,910	122,100	239,010
60-64	98,240	103,440	201,680
65-69	86,500	98,390	184,880
70-74	77,630	93,460	171,090
75-79	59,100	83,200	142,300
80-84	38,500	64,490	102,990
85+	27,190	66,510	93,710

Source: Wisconsin Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

WISCONSIN POPULATION ESTIMATES BY COUNTY AND DHFS REGION  
July 1, 1998

County	Population	County	Population
Adams	18,000	Marinette	42,730
Ashland	16,790	Marquette	13,910
Barron	42,860	Menominee	4,310
Bayfield	14,650	Milwaukee	956,460
Brown	219,320	Monroe	39,000
Buffalo	13,860	Oconto	33,380
Burnett	14,070	Oneida	34,600
Calumet	39,250	Outagamie	157,050
Chippewa	55,020	Ozaukee	80,430
Clark	32,770	Pepin	7,220
Columbia	49,530	Pierce	34,730
Crawford	16,740	Polk	37,230
Dane	409,910	Portage	67,130
Dodge	83,860	Price	16,310
Door	26,640	Racine	187,750
Douglas	42,270	Richland	17,810
Dunn	38,500	Rock	150,310
Eau Claire	91,200	Rusk	15,330
Florence	5,120	St Croix	57,770
Fond du Lac	96,460	Sauk	52,640
Forest	9,350	Sawyer	15,600
Grant	49,910	Shawano	38,830
Green	32,130	Sheboygan	111,890
Green Lake	19,700	Taylor	19,530
Iowa	22,060	Trempealeau	26,400
Iron	6,350	Vernon	26,570
Jackson	18,370	Vilas	19,540
Jefferson	73,680	Walworth	85,180
Juneau	23,540	Washburn	14,920
Kenosha	142,140	Washington	113,190
Kewaunee	20,040	Waukesha	347,480
La Crosse	105,770	Waupaca	49,970
Lafayette	16,310	Waushara	21,080
Langlade	20,650	Winnebago	154,540
Lincoln	28,990	Wood	77,720
Manitowoc	84,760		
Marathon	126,090		
		<b>DHFS Regions</b>	
		Northern Region	478,440
		Northeastern Region	1,133,720
		Southern Region	942,710
		Southeastern Region	1,986,260
		Western Region	713,800
		<b>STATE TOTAL</b>	<b>5,255,180</b>

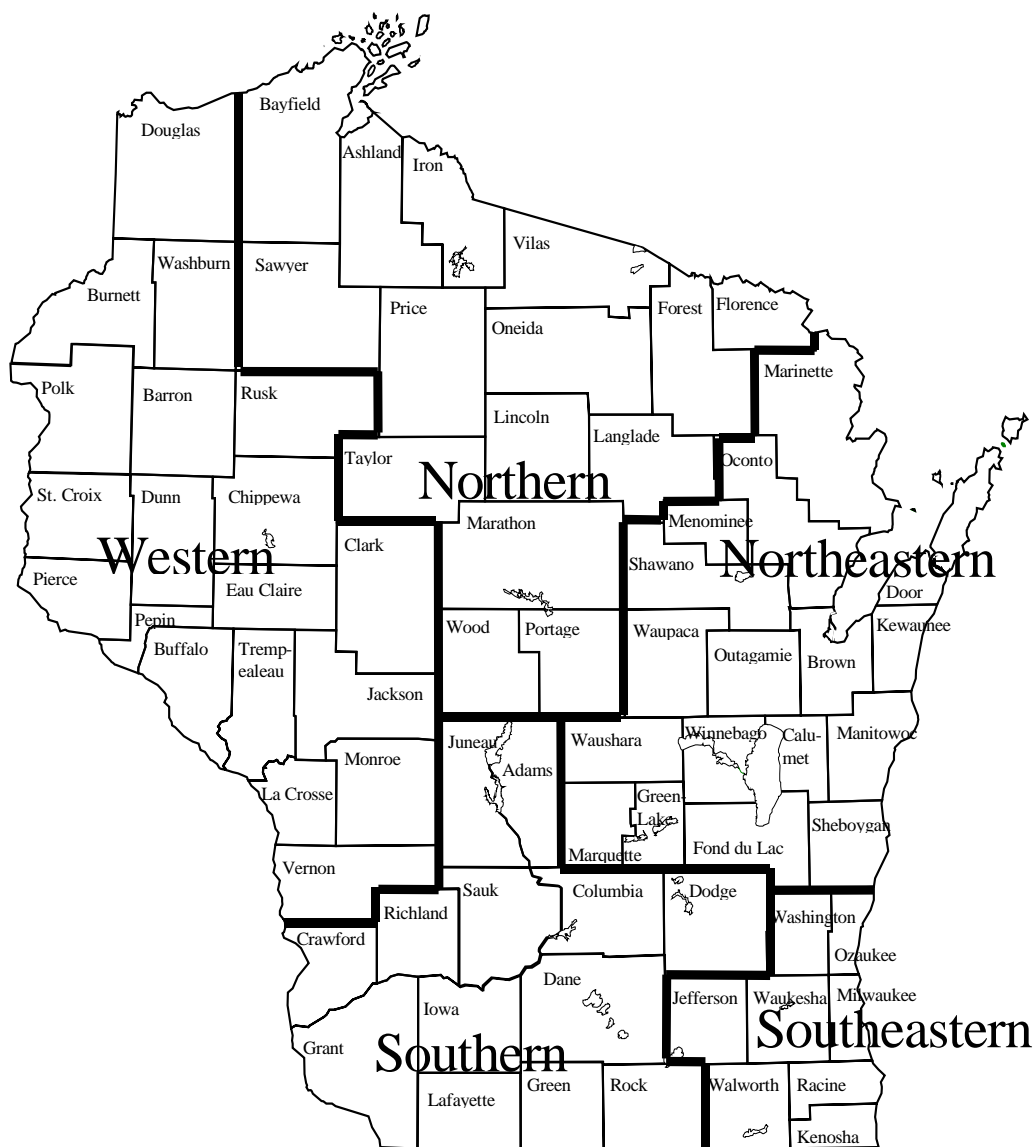
Source: Wisconsin Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

**1970 U.S. Standard Million Population**

AGE GROUP	STANDARD POPULATION
0-4	84,416
5-9	98,204
10-14	102,304
15-19	93,845
20-24	80,561
25-29	66,320
30-34	56,249
35-39	54,656
40-44	58,958
45-49	59,622
50-54	54,643
55-59	49,077
60-64	42,403
65-69	34,406
70-74	26,789
75-79	18,871
80-84	11,241
85 and older	7,435
<b>Total Population</b>	<b>1,000,000</b>

Source: 1970 U.S. Census, Population Estimates Branch, U.S. Bureau of the Census

## Wisconsin Department of Health and Family Services Regions





**Table A. Number of *In Situ/Invasive* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998**

Primary Site	Total	Adams	Ashland	Barron	Bayfield	Brown	Buffalo	Burnett	Calumet	Chippewa	Clark
Mouth and Pharynx	621	0	1	8	0	26	2	1	1	2	2
Stomach	391	1	3	2	0	15	0	0	2	7	0
Colorectal	3,322	6	10	28	6	104	11	9	14	36	23
Pancreas	583	0	1	6	1	24	3	2	3	5	5
Other Gastrointestinal Tract	780	0	3	4	3	21	1	1	0	4	3
Trachea, Bronchus & Lung	3,234	18	12	25	8	82	9	7	12	44	12
Other Respiratory	359	4	0	3	0	12	1	1	2	0	1
Bone & Connective Tissue	167	0	0	1	1	4	0	1	1	0	1
Melanoma of Skin	710	1	1	2	1	27	0	3	6	13	9
Breast	4,418	12	9	23	8	153	17	15	27	48	27
Cervix Uteri	792	5	0	1	0	41	2	0	4	7	4
Corpus Uteri	719	0	1	6	1	32	3	1	2	6	3
Other Female Genital	684	2	2	4	0	26	2	1	6	7	2
Prostate	3,358	15	14	22	7	154	12	4	19	37	30
Other Male Genital	223	0	1	0	2	14	0	2	1	5	1
Urinary Bladder	1,154	2	2	12	2	36	2	0	6	13	9
Kidney & Other Urinary	703	5	1	8	0	24	0	2	3	6	6
Eye, Brain & Other Nervous System	452	0	2	4	2	17	3	0	4	6	2
Lymph Nodes	765	2	4	5	4	28	1	0	2	9	5
Leukemia	636	5	2	10	2	15	1	3	2	6	8
All Others	1,217	3	3	6	2	36	4	7	6	17	9
All Reportable Sites	25,288	81	72	180	50	891	74	60	123	278	162

(Table continued on next page)

**Table A.**      **Number of *In Situ/Invasive Combined* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998 (Continued)**

Primary Site	Columbia	Crawford	Dane	Dodge	Door	Douglas	Dunn	Eau Claire	Florence	Fond du Lac	Forest
Mouth and Pharynx	8	3	45	2	5	5	2	11	0	19	1
Stomach	7	3	14	9	1	2	2	8	1	4	2
Colorectal	38	11	182	55	31	27	25	62	3	83	13
Pancreas	6	3	45	11	6	9	3	6	0	10	1
Other Gastrointestinal Tract	11	5	44	8	4	6	5	9	1	13	1
Trachea, Bronchus & Lung	40	16	169	44	21	33	14	34	4	60	7
Other Respiratory	4	1	30	3	2	7	1	6	0	12	0
Bone & Connective Tissue	2	0	18	4	0	1	0	0	1	3	1
Melanoma of Skin	5	1	80	18	2	4	3	7	2	18	0
Breast	44	19	314	61	31	29	26	76	2	94	8
Cervix Uteri	11	7	62	14	2	1	4	5	1	25	6
Corpus Uteri	16	2	44	12	7	8	2	13	0	17	1
Other Female Genital	8	1	55	10	9	6	2	5	2	18	2
Prostate	27	16	167	42	29	19	17	35	0	61	7
Other Male Genital	1	1	10	3	1	1	1	3	0	4	0
Urinary Bladder	5	6	54	15	10	15	8	23	1	27	1
Kidney & Other Urinary	10	2	35	7	4	7	5	17	0	15	0
Eye, Brain & Other Nervous System	7	2	40	5	3	4	1	4	0	8	1
Lymph Nodes	10	3	59	12	6	4	4	9	1	10	0
Leukemia	6	3	37	12	7	3	4	7	0	19	1
All Others	14	4	94	23	11	6	7	24	1	32	3
All Reportable Sites	280	109	1,598	370	192	197	136	364	20	552	56

(Table continued on next page)

**Table A. Number of *In Situ/Invasive Combined* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998 (Continued)**

Primary Site	Grant	Green	Green Lake	Iowa	Iron	Jackson	Jefferson	Juneau	Kenosha	Kewaunee	La Crosse
Mouth and Pharynx	4	7	5	3	0	4	4	5	16	1	15
Stomach	2	5	4	1	1	1	2	1	13	2	4
Colorectal	32	26	17	20	2	10	36	21	83	16	68
Pancreas	5	3	1	1	1	1	8	1	19	4	15
Other Gastrointestinal Tract	3	6	6	3	0	2	14	6	20	1	18
Trachea, Bronchus & Lung	24	20	13	11	5	12	47	30	98	11	49
Other Respiratory	2	0	1	1	1	2	5	4	9	3	5
Bone & Connective Tissue	0	1	0	0	0	2	2	0	6	0	2
Melanoma of Skin	6	3	4	5	1	1	7	1	5	1	27
Breast	38	38	17	19	6	13	55	19	104	21	100
Cervix Uteri	6	7	2	6	1	5	8	2	13	3	41
Corpus Uteri	9	9	3	1	1	4	5	4	19	0	9
Other Female Genital	6	3	2	4	2	3	5	4	12	2	13
Prostate	45	16	19	10	3	16	35	10	83	27	58
Other Male Genital	3	2	0	0	0	1	5	1	6	0	6
Urinary Bladder	9	15	8	2	1	2	10	7	24	3	19
Kidney & Other Urinary	7	11	3	2	1	3	9	5	15	0	14
Eye, Brain & Other Nervous System	3	4	3	2	0	2	5	1	11	1	12
Lymph Nodes	6	6	3	2	0	2	11	3	27	9	6
Leukemia	10	6	1	3	1	5	4	5	14	4	14
All Others	13	6	11	4	2	2	21	3	13	2	24
All Reportable Sites	233	194	123	100	29	93	298	133	610	111	519

(Table continued on next page)

**Table A. Number of *In Situ/Invasive Combined* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998 (Continued)**

Primary Site	Lafayette	Langlade	Lincoln	Manitowoc	Marathon	Marinette	Marquette	Menominee	Milwaukee	Monroe	Oconto
Mouth and Pharynx	4	4	5	16	11	8	3	0	120	4	2
Stomach	2	3	3	9	10	6	4	2	91	4	2
Colorectal	16	20	40	56	77	47	7	4	596	29	21
Pancreas	3	6	6	5	15	5	2	0	103	4	3
Other Gastrointestinal Tract	1	2	7	9	27	6	2	0	167	7	3
Trachea, Bronchus & Lung	9	12	22	54	68	49	19	3	667	25	24
Other Respiratory	1	3	2	5	6	5	3	0	74	3	2
Bone & Connective Tissue	0	0	0	3	3	1	0	0	34	1	0
Melanoma of Skin	4	1	3	9	5	5	4	0	104	5	4
Breast	15	17	31	66	97	42	13	4	764	21	24
Cervix Uteri	0	1	6	10	18	5	5	0	119	12	4
Corpus Uteri	0	2	5	20	16	15	2	0	139	4	4
Other Female Genital	1	3	3	17	16	10	4	1	126	6	0
Prostate	9	9	39	71	77	39	7	1	586	31	23
Other Male Genital	0	0	3	5	6	1	0	0	37	1	2
Urinary Bladder	3	4	7	21	23	12	10	0	211	12	10
Kidney & Other Urinary	2	1	8	11	13	10	2	0	142	4	7
Eye, Brain & Other Nervous System	1	2	5	4	15	4	1	0	73	4	2
Lymph Nodes	3	5	8	10	15	8	3	1	144	9	6
Leukemia	1	2	4	6	15	3	4	0	107	2	2
All Others	5	4	4	20	31	8	7	0	193	8	4
All Reportable Sites	80	101	211	427	564	289	102	16	4,597	196	149

(Table continued on next page)

**Table A.** Number of *In Situ/Invasive Combined* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998 (Continued)

Primary Site	Oneida	Outagamie	Ozaukee	Pepin	Pierce	Polk	Portage	Price	Racine	Richland	Rock
Mouth and Pharynx	2	12	13	1	4	1	6	4	19	1	28
Stomach	5	10	4	0	2	2	0	2	13	2	14
Colorectal	39	91	51	8	13	23	38	12	107	12	87
Pancreas	6	18	10	1	1	4	3	0	14	1	16
Other Gastrointestinal Tract	10	24	8	3	2	9	5	6	39	1	21
Trachea, Bronchus & Lung	42	100	43	10	7	28	32	13	128	6	103
Other Respiratory	2	12	6	0	0	1	3	2	13	1	9
Bone & Connective Tissue	0	4	4	0	0	0	1	1	7	0	4
Melanoma of Skin	7	28	10	1	4	1	3	1	18	2	20
Breast	43	144	88	6	16	26	37	21	172	14	132
Cervix Uteri	13	22	8	0	8	3	4	3	15	2	42
Corpus Uteri	5	33	8	1	1	1	4	3	18	2	28
Other Female Genital	8	26	12	1	4	7	6	3	17	2	19
Prostate	40	76	75	6	14	21	42	16	153	3	79
Other Male Genital	2	13	4	0	0	2	1	0	5	0	5
Urinary Bladder	20	45	24	1	0	6	14	2	44	5	34
Kidney & Other Urinary	4	18	11	1	1	1	5	1	17	1	23
Eye, Brain & Other Nervous System	5	14	9	1	2	4	10	1	24	1	6
Lymph Nodes	8	21	12	1	4	8	11	0	40	1	25
Leukemia	5	22	14	1	2	4	6	4	16	4	18
All Others	10	40	23	1	1	12	17	3	35	3	50
All Reportable Sites	276	773	437	44	86	164	248	98	914	64	763

(Table continued on next page)

**Table A.** Number of *In Situ/Invasive Combined* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998 (Continued)

Primary Site	Rusk	St. Croix	Sauk	Sawyer	Shawano	Sheboygan	Taylor	Trempealeau	Vernon	Vilas	Walworth
Mouth and Pharynx	2	1	6	2	4	19	5	4	5	9	9
Stomach	1	0	3	2	1	13	1	3	0	3	2
Colorectal	9	13	46	24	22	79	11	21	29	21	63
Pancreas	1	0	7	3	5	19	3	3	4	2	9
Other Gastrointestinal Tract	4	2	6	5	9	15	7	4	4	6	14
Trachea, Bronchus & Lung	16	18	31	13	35	59	8	10	31	34	56
Other Respiratory	0	1	0	4	7	8	0	2	0	3	4
Bone & Connective Tissue	1	0	3	2	0	1	0	0	1	2	2
Melanoma of Skin	1	1	9	3	3	29	3	5	12	2	17
Breast	12	22	47	18	27	105	14	22	27	18	57
Cervix Uteri	0	3	6	0	6	47	4	8	11	4	10
Corpus Uteri	3	3	5	3	6	17	4	6	5	9	15
Other Female Genital	1	3	9	3	7	23	3	8	5	5	15
Prostate	14	11	35	14	34	83	16	22	24	27	54
Other Male Genital	1	2	1	4	1	7	0	5	1	1	5
Urinary Bladder	1	2	14	5	7	28	1	11	8	18	21
Kidney & Other Urinary	5	6	10	3	6	22	3	3	6	4	11
Eye, Brain & Other Nervous System	1	2	8	3	3	10	2	1	1	3	7
Lymph Nodes	1	4	5	3	4	12	4	3	4	5	18
Leukemia	3	3	5	3	5	15	4	5	6	7	7
All Others	2	6	14	1	11	37	4	13	11	6	25
All Reportable Sites	79	103	270	118	203	648	97	159	195	189	421

(Table continued on next page)

**Table A. Number of *In Situ/Invasive Combined* Cancer Cases by Site Group and County of Residence, Wisconsin, 1998 (Continued)**

Primary Site	Washburn	Washington	Waukesha	Waupaca	Waushara	Winnebago	Wood
Mouth and Pharynx	2	4	39	7	0	15	12
Stomach	2	7	17	5	2	14	6
Colorectal	21	63	189	28	19	110	52
Pancreas	2	19	35	3	3	20	10
Other Gastrointestinal Tract	4	12	39	15	2	35	12
Trachea, Bronchus & Lung	6	61	188	42	23	103	45
Other Respiratory	1	6	22	6	1	10	8
Bone & Connective Tissue	1	4	14	4	2	8	7
Melanoma of Skin	2	18	45	7	2	32	16
Breast	27	112	337	42	24	146	95
Cervix Uteri	0	12	13	7	0	43	22
Corpus Uteri	2	10	38	7	1	25	8
Other Female Genital	1	8	25	7	4	22	17
Prostate	12	66	253	45	11	88	76
Other Male Genital	1	7	14	1	2	6	2
Urinary Bladder	8	21	71	13	8	44	16
Kidney & Other Urinary	3	10	35	12	5	32	17
Eye, Brain & Other Nervous System	2	7	25	5	2	14	9
Lymph Nodes	3	17	41	3	2	23	17
Leukemia	1	16	41	14	3	13	23
All Others	4	18	82	18	4	47	22
All Reportable Sites	105	498	1,563	291	120	850	492

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services.

Note: See Technical Notes on pages 55-57 for the individual sites in each site group.

**Table B. Number of *In Situ/Invasive Combined* Cancer Cases for Large Cities and their Surrounding Counties by Major Site Group, Wisconsin, 1998**

COUNTY Major City	MAJOR SITE GROUP									
	Colo- Rectal	Other GI	Respiratory	Breast	Female Genital	Male Genital	Urinary Tract	Leukemia & Lymph Nodes	Other	Total
BROWN	104	86	94	153	99	168	60	43	84	891
Green Bay	84	70	69	116	82	126	47	35	62	691
Rest of County	20	16	25	37	17	42	13	8	22	200
DANE	182	148	199	314	161	177	89	96	232	1,598
Madison	121	107	130	224	110	118	58	62	156	1,086
Rest of County	61	41	69	90	51	59	31	34	76	512
EAU CLAIRE	62	34	40	76	23	38	40	16	35	364
Eau Claire	49	32	32	57	16	29	28	14	27	284
Rest of County	13	2	8	19	7	9	12	2	8	80
KENOSHA	83	68	107	104	44	89	39	41	35	610
Kenosha	65	55	84	81	39	70	34	33	32	493
Rest of County	18	13	23	23	5	19	5	8	3	117
LA CROSSE	68	52	54	100	63	64	33	20	65	519
La Crosse	54	33	36	68	40	40	24	14	42	351
Rest of County	14	19	18	32	23	24	9	6	23	168
MILWAUKEE	596	481	741	764	384	623	353	251	404	4,597
Milwaukee	445	373	553	550	300	453	243	172	285	3,374
Wauwatosa	20	25	33	51	20	31	23	19	21	243
West Allis	47	33	50	46	16	54	29	20	37	332
Rest of County	84	50	105	117	48	85	58	40	61	648
OUTAGAMIE	91	64	112	144	81	89	63	43	86	773
Appleton	60	32	65	91	48	46	35	28	46	451
Rest of County	31	32	47	53	33	43	28	15	40	322
RACINE	107	85	141	172	50	158	61	56	84	914
Racine	67	69	97	115	29	103	42	39	56	617
Rest of County	40	16	44	57	21	55	19	17	28	297
ROCK	87	79	112	132	89	84	57	43	80	763
Janesville	46	38	50	58	48	36	27	13	42	358
Rest of County	41	41	62	74	41	48	30	30	38	405
SHEBOYGAN	79	66	67	105	87	90	50	27	77	648
Sheboygan	43	34	40	53	58	48	29	15	39	359
Rest of County	36	32	27	52	29	42	21	12	38	289
WAUKESHA	189	130	210	337	76	267	106	82	166	1,563
Waukesha	55	33	73	99	32	69	33	18	52	464
Rest of County	134	97	137	238	44	198	73	64	114	1,099
WINNEBAGO	110	84	113	146	90	94	76	36	101	850
Oshkosh	66	55	70	73	52	50	41	25	62	494
Rest of County	44	29	43	73	38	44	35	11	39	356

Source: Wisconsin Cancer Reporting System, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services

Notes: See Technical Notes on pages 55-57 for individual sites included in each major site group, and page 49 for how city residence was determined.

In this table, the major site group "Other Gastrointestinal Tract" includes the site group "Mouth and Pharynx."  
Cities selected for this table are those with an estimated population of at least 50,000.



**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998**

Primary Site	Total	Adams	Ashland	Barron	Bayfield	Brown	Buffalo	Burnett	Calumet	Chippewa	Clark
Mouth and Pharynx	176	0	0	4	1	3	0	1	0	2	0
Stomach	218	1	1	0	0	6	1	2	1	3	1
Colon	950	3	5	9	1	45	4	1	5	12	8
Rectum & Rectosigmoid Junction	178	1	1	0	0	6	1	1	1	3	3
Pancreas	576	0	2	11	2	26	3	3	5	4	3
Other Gastrointestinal Tract	657	1	1	11	4	18	4	3	4	5	5
Trachea, Bronchus & Lung	2,799	21	10	31	18	91	6	7	17	35	11
Other Respiratory	86	0	0	0	0	0	0	0	0	4	5
Bone & Connective Tissue	107	0	1	2	1	3	0	0	0	0	1
Melanoma of Skin	143	0	1	1	1	6	2	2	2	1	0
Breast	864	4	1	5	7	39	1	4	5	12	6
Cervix Uteri	59	0	1	1	1	2	2	0	1	0	0
Corpus Uteri	71	1	0	0	0	5	0	0	0	1	0
Other Female Genital	392	1	1	0	1	15	0	1	1	2	1
Prostate	751	2	3	8	0	19	1	8	14	11	7
Other Male Genital	10	0	0	0	0	0	0	0	0	0	0
Urinary Bladder	242	2	0	2	0	12	1	1	2	5	0
Kidney & Other Urinary	243	1	0	1	0	10	0	2	1	3	1
Eye, Brain & Other Nervous System	293	0	1	2	0	14	3	1	1	5	1
Lymph Nodes	571	4	4	7	3	19	4	2	3	5	6
Leukemia	467	0	1	3	2	18	1	1	0	9	4
All Others	1,010	3	4	14	3	21	4	4	8	13	3
Total Cancer Deaths	10,863	45	38	112	45	378	38	44	71	135	66

(Table continued on next page)

**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998 (Continued)**

Primary Site	Columbia	Crawford	Dane	Dodge	Door	Douglas	Dunn	Eau Claire	Florence	Fond du Lac	Forest	
Mouth and Pharynx	1	0	9	2	1	2	2	2	2	0	5	0
Stomach	1	3	11	3	0	4	2	4	4	0	5	0
Colon	13	3	40	11	4	12	7	14	1	24	1	
Rectum & Rectosigmoid Junction	2	2	11	3	2	1	0	1	0	5	0	
Pancreas	5	1	32	9	6	9	4	8	0	12	2	
Other Gastrointestinal Tract	12	3	23	11	6	9	2	9	0	12	4	
Trachea, Bronchus & Lung	32	6	134	50	21	22	20	31	3	59	7	
Other Respiratory	1	0	3	5	1	2	0	1	0	3	1	
Bone & Connective Tissue	1	0	4	5	1	2	1	1	1	2	2	
Melanoma of Skin	1	0	9	2	1	3	2	4	0	2	0	
Breast	6	3	57	19	5	12	9	5	1	16	5	
Cervix Uteri	1	0	3	0	0	0	0	0	0	1	0	
Corpus Uteri	1	0	3	5	1	0	1	0	0	2	0	
Other Female Genital	6	0	23	7	4	4	4	6	0	16	2	
Prostate	8	3	36	14	8	5	4	18	1	22	1	
Other Male Genital	0	0	0	0	0	0	0	0	0	1	0	
Urinary Bladder	1	2	19	3	3	1	1	5	0	4	0	
Kidney & Other Urinary	2	0	13	3	2	3	0	2	0	4	0	
Eye, Brain & Other Nervous System	4	2	24	7	2	3	1	2	0	6	1	
Lymph Nodes	7	3	34	7	4	5	2	5	0	1	1	
Leukemia	5	0	32	11	6	2	4	6	0	13	0	
All Others	14	3	55	26	6	11	5	18	0	17	3	
Total Cancer Deaths	124	34	575	203	84	112	71	142	7	232	30	

(Table continued on next page)

**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998  
(Continued)**

<b>Primary Site</b>	<b>Grant</b>	<b>Green</b>	<b>Green Lake</b>	<b>Iowa</b>	<b>Iron</b>	<b>Jackson</b>	<b>Jefferson</b>	<b>Juneau</b>	<b>Kenosha</b>	<b>Kewaunee</b>	<b>La Crosse</b>
Mouth and Pharynx	1	2	0	0	0	0	2	1	6	0	1
Stomach	1	1	0	2	0	0	2	1	9	0	3
Colon	11	4	5	7	1	6	14	5	23	4	18
Rectum & Rectosigmoid Junction	1	1	0	1	0	0	3	2	0	2	4
Pancreas	5	1	2	2	0	0	11	2	14	3	13
Other Gastrointestinal Tract	5	5	0	3	1	3	12	7	9	1	12
Trachea, Bronchus & Lung	22	19	13	12	7	15	44	26	90	7	48
Other Respiratory	1	0	0	0	0	0	1	1	1	0	3
Bone & Connective Tissue	0	1	0	0	0	1	3	1	1	1	3
Melanoma of Skin	0	1	1	1	0	0	3	0	3	1	4
Breast	9	5	1	3	3	4	15	3	17	4	17
Cervix Uteri	0	1	0	0	1	0	0	1	2	0	0
Corpus Uteri	0	1	0	0	1	0	0	0	2	0	0
Other Female Genital	4	1	1	1	0	1	5	1	8	1	13
Prostate	7	5	6	4	2	2	9	5	10	7	20
Other Male Genital	1	0	0	0	0	0	0	0	0	0	0
Urinary Bladder	7	1	1	0	1	1	2	1	4	0	0
Kidney & Other Urinary	1	1	1	1	0	0	5	1	1	3	6
Eye, Brain & Other Nervous System	0	1	0	3	0	0	5	2	8	1	6
Lymph Nodes	6	1	8	1	1	2	12	0	11	4	10
Leukemia	7	3	2	1	2	1	5	3	9	2	10
All Others	16	5	1	3	3	3	17	6	26	2	21
<b>Total Cancer Deaths</b>	<b>105</b>	<b>60</b>	<b>42</b>	<b>45</b>	<b>23</b>	<b>39</b>	<b>170</b>	<b>69</b>	<b>254</b>	<b>43</b>	<b>212</b>

(Table continued on next page)

**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998  
(Continued)**

Primary Site	Lafayette	Langlade	Lincoln	Manitowoc	Marathon	Marinette	Marquette	Menominee	Milwaukee	Monroe	Oconto
Mouth and Pharynx	0	0	1	3	5	1	1	0	37	3	1
Stomach	0	1	0	5	8	2	0	0	41	2	2
Colon	4	5	7	16	22	15	7	3	184	11	4
Rectum & Rectosigmoid Junction	0	0	2	2	12	3	0	0	30	1	1
Pancreas	1	2	5	9	22	8	5	0	96	6	4
Other Gastrointestinal Tract	2	1	7	12	17	9	3	1	142	4	2
Trachea, Bronchus & Lung	10	9	18	42	67	35	10	2	542	26	15
Other Respiratory	0	1	0	3	3	2	1	0	11	0	0
Bone & Connective Tissue	0	0	0	2	0	1	0	0	18	1	0
Melanoma of Skin	0	3	1	4	0	2	0	0	25	3	3
Breast	3	6	7	14	19	1	3	2	176	5	4
Cervix Uteri	0	0	0	1	1	2	0	0	14	0	0
Corpus Uteri	0	1	0	1	2	1	1	0	9	0	0
Other Female Genital	3	0	3	4	7	9	2	0	80	3	3
Prostate	1	3	10	17	15	6	4	0	143	3	5
Other Male Genital	1	0	0	0	0	0	0	0	1	0	0
Urinary Bladder	1	1	2	3	3	1	0	0	38	4	2
Kidney & Other Urinary	2	1	4	9	8	1	0	0	52	1	3
Eye, Brain & Other Nervous System	0	5	2	4	7	1	1	1	38	3	3
Lymph Nodes	5	3	1	8	9	8	3	1	100	4	4
Leukemia	0	2	3	7	10	1	4	0	97	2	2
All Others	6	3	3	14	27	11	4	2	188	9	8
Total Cancer Deaths	39	47	76	180	264	120	49	12	2,062	91	66

(Table continued on next page)

**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998  
(Continued)**

Primary Site	Oneida	Outagamie	Ozaukee	Pepin	Pierce	Polk	Portage	Price	Racine	Richland	Rock
Mouth and Pharynx	2	2	2	0	2	1	0	2	6	0	8
Stomach	2	5	2	0	1	2	2	0	7	1	7
Colon	8	19	14	2	5	4	7	3	25	7	36
Rectum & Rectosigmoid Junction	3	6	3	0	0	1	1	0	4	0	3
Pancreas	4	17	9	0	5	8	1	0	17	2	14
Other Gastrointestinal Tract	10	25	9	0	2	2	10	3	24	2	17
Trachea, Bronchus & Lung	30	87	31	6	8	40	24	10	123	4	100
Other Respiratory	2	3	1	0	1	0	1	1	8	0	3
Bone & Connective Tissue	1	6	2	0	1	0	0	1	4	0	3
Melanoma of Skin	2	2	2	0	2	0	0	0	3	0	5
Breast	8	14	13	2	4	6	7	5	31	4	23
Cervix Uteri	2	1	0	0	0	1	1	0	1	1	2
Corpus Uteri	0	1	1	0	0	0	1	0	4	0	2
Other Female Genital	5	9	4	1	2	7	1	2	6	3	6
Prostate	8	19	13	1	4	5	6	1	26	1	15
Other Male Genital	0	2	0	0	0	0	0	0	0	0	0
Urinary Bladder	3	2	1	0	0	1	3	0	10	4	5
Kidney & Other Urinary	0	6	5	0	0	0	1	0	13	0	4
Eye, Brain & Other Nervous System	2	1	4	0	2	1	6	2	7	2	8
Lymph Nodes	5	16	13	2	2	6	10	4	21	5	18
Leukemia	3	8	4	0	3	1	4	2	14	4	6
All Others	9	28	15	3	0	11	10	3	25	6	31
Total Cancer Deaths	109	279	148	17	44	97	96	39	379	46	316

(Table continued on next page)

**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998  
(Continued)**

Primary Site	Rusk	St. Croix	Sauk	Sawyer	Shawano	Sheboygan	Taylor	Trempealeau	Vernon	Vilas	Walworth
Mouth and Pharynx	1	1	2	1	2	4	1	2	2	4	3
Stomach	0	2	2	1	1	8	0	2	2	0	2
Colon	1	14	10	5	9	20	6	11	7	8	15
Rectum & Rectosigmoid Junction	1	3	1	1	1	3	0	1	1	4	4
Pancreas	0	2	5	5	4	15	2	2	4	1	8
Other Gastrointestinal Tract	4	2	10	0	8	8	6	7	5	7	11
Trachea, Bronchus & Lung	12	21	33	9	25	52	9	9	20	23	47
Other Respiratory	1	0	0	0	0	1	0	0	0	0	0
Bone & Connective Tissue	0	1	1	0	2	3	0	0	0	1	1
Melanoma of Skin	0	1	1	0	1	3	0	1	1	3	2
Breast	1	5	11	3	9	20	5	2	3	8	15
Cervix Uteri	0	2	0	0	0	2	0	0	1	0	0
Corpus Uteri	0	0	1	0	0	0	1	0	0	0	3
Other Female Genital	0	2	7	1	3	14	2	0	2	2	15
Prostate	4	5	9	6	11	12	6	2	3	6	14
Other Male Genital	0	1	0	0	0	1	0	0	0	0	0
Urinary Bladder	0	2	5	3	4	5	0	1	4	2	6
Kidney & Other Urinary	2	4	3	2	3	6	3	0	0	0	6
Eye, Brain & Other Nervous System	1	5	8	3	4	3	1	1	1	3	5
Lymph Nodes	3	2	5	1	2	16	2	6	3	2	12
Leukemia	3	5	6	3	5	10	6	3	5	5	5
All Others	5	8	13	7	7	26	7	5	5	5	25
Total Cancer Deaths	39	88	133	51	101	232	57	55	69	84	199

(Table continued on next page)

**Table C. Number of Cancer Deaths by Site Group and County of Residence, Wisconsin, 1998**

<b>Primary Site</b>	<b>Washburn</b>	<b>Washington</b>	<b>Waukesha</b>	<b>Waupaca</b>	<b>Waushara</b>	<b>Winnebago</b>	<b>Wood</b>
Mouth and Pharynx	0	2	16	0	3	6	1
Stomach	1	4	14	3	4	8	6
Colon	6	13	44	9	13	21	9
Rectum & Rectosigmoid Junction	2	9	7	2	0	7	1
Pancreas	1	10	47	6	2	20	7
Other Gastrointestinal Tract	5	8	30	10	2	17	8
Trachea, Bronchus & Lung	7	44	156	33	15	79	31
Other Respiratory	0	0	5	0	0	2	3
Bone & Connective Tissue	0	3	8	3	0	5	0
Melanoma of Skin	0	1	10	1	0	7	0
Breast	4	15	57	8	3	20	15
Cervix Uteri	0	2	3	1	0	1	2
Corpus Uteri	1	3	9	0	0	3	2
Other Female Genital	1	2	24	5	1	17	3
Prostate	0	15	43	8	1	23	7
Other Male Genital	0	0	2	0	0	0	0
Urinary Bladder	2	6	13	3	2	12	6
Kidney & Other Urinary	0	7	16	2	0	9	2
Eye, Brain & Other Nervous System	0	7	21	4	1	10	9
Lymph Nodes	1	14	30	5	1	23	13
Leukemia	0	5	33	9	3	12	9
All Others	7	17	54	10	7	27	21
<b>Total Cancer Deaths</b>	<b>38</b>	<b>187</b>	<b>642</b>	<b>122</b>	<b>58</b>	<b>329</b>	<b>155</b>

Source: 1998 Wisconsin resident death file, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services.

Note: "Total cancer deaths" include all reportable cancer deaths except deaths from nonmelanoma skin cancer (see Tech. Notes on page 49.)

**Table D. Wisconsin and National (SEER and NAACCR) Age-Adjusted Invasive Incidence and Mortality Rates, Selected Sites, 1993 - 1997**

	All Sites Combined	Colorectal	Lung	Prostate	Breast
Incidence – Male					
SEER	475.5	52.4	73.3	147.0	-
NAACCR	463.7	52.7	78.8	136.4	-
Wisconsin	477.8	58.8	75.5	144.1	-
Incidence – Female					
SEER	347.8	37.2	43.0	-	111.9
NAACCR	341.6	37.5	44.4	-	107.5
Wisconsin	349.1	41.7	41.5	-	108.6
Mortality – Male					
National	209.7	21.0	69.4	24.7	-
Wisconsin	187.9	20.6	57.3	25.8	-
Mortality – Female					
National	139.8	14.4	34.0	-	24.8
Wisconsin	134.2	13.6	29.3	-	23.8

Sources: Incidence data are from *SEER Cancer Statistics Review, 1973-1997*, National Cancer Institute, Bethesda, MD, 2000 and *Cancer Incidence in North America Volume One*, North American Association of Central Cancer Registries, Springfield, IL, April 2000 (NAACCR and Wisconsin data). Mortality data were obtained from the National Center for Health Statistics. Note: Rates are per 100,000 population and age-adjusted to the 1970 U.S. standard million population.

- The Surveillance, Epidemiology and End Results (SEER) program, a project of the National Cancer Institute, provides information on cancers diagnosed between 1973 and 1997. The SEER program includes population-based registries in eleven areas including the states of Connecticut, Hawaii, Iowa, New Mexico, Utah and the metropolitan areas of Atlanta, GA, Detroit, MI, Los Angeles, San Francisco and San Jose, CA and Seattle-Puget Sound, WA.
- The NAACCR two-volume monograph provides incidence and mortality for North America by presenting individual state and U.S. combined rates. The U.S. combined rates are derived from central cancer registries meeting four criteria: five years of incidence data, NAACCR estimates of 0.1 percent duplicates or fewer, NAACCR estimates of at least 97% error-free data (on pre-selected variables), and completeness estimates of at least 90%.

**Table E. SEER Age-Adjusted Invasive Incidence and Mortality Rates, Selected Sites, 1997**

	All Sites Combined	Colorectal	Lung	Prostate	Breast
Incidence					
Male	456.2	52.6	69.1	139.1	--
Female	352.0	37.0	43.1	--	115.4
Mortality					
Male	201.9	20.0	66.6	22.5	--
Female	137.0	13.7	34.5	--	23.3

Source: Incidence data are from *SEER Cancer Statistics Review, 1973-1997*, National Cancer Institute, Bethesda, MD, 2000. Mortality data were obtained from the National Center for Health Statistics.



